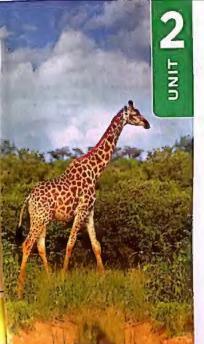
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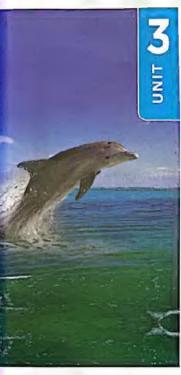
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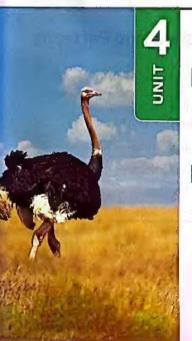
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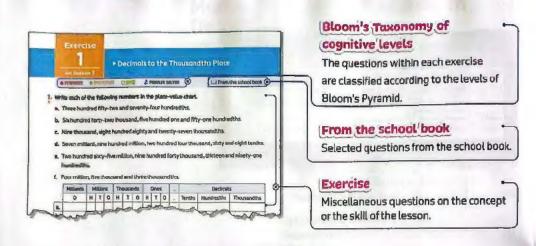
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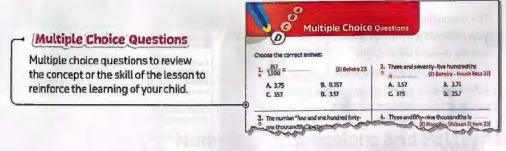


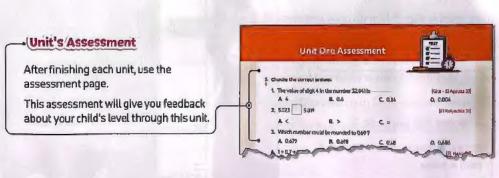
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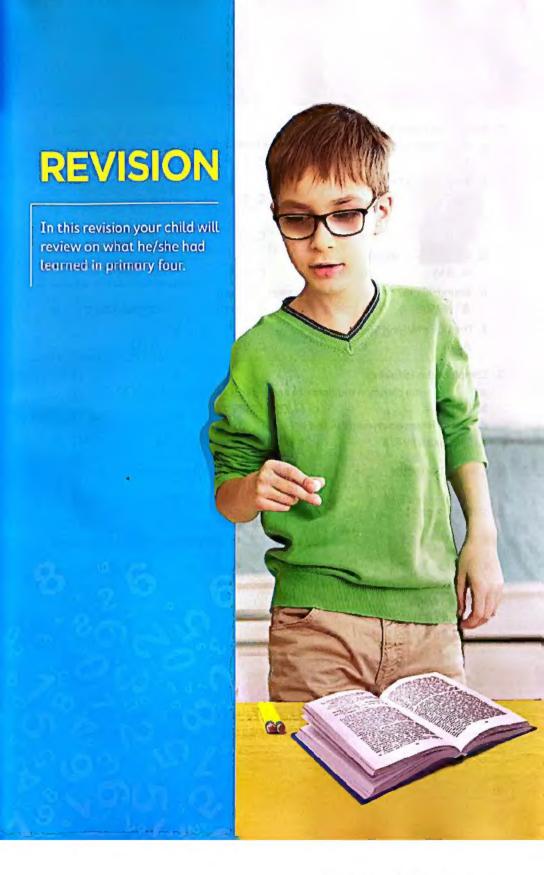
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How to use this guide?









1. Choose the correct answer.

- a. In the number 325.41, which digit is in the Hundredths place?
 - A. 1
- B. 2
- C. 3
- D. 4

- **b.** $2 \times (7 \times 4) = (2 \times ------) \times 4$
 - A. 2
- B. 4
- C. 5
- D. 7

- c. 255 ÷ 5 = --
 - A. 11
- B. 50
- C. 51
- D. 55

- **d.** 4.6 = _____ tenths.
 - A. 0.46
- B. 46
- C. 460
- D. 4,600
- e. Round 387,932 = _____ [to the nearest Hundred].
 - A. 387,900
- B. 388,000
- C. 387,930
- D. 390,000

- f. The GCF of 48 and 56 is -
 - A. 6
- B. 8
- C. 9
- D. 12

2. Complete the following.

- a. ——— is a common multiple of 4 and 5, and lies between 10 and 30.
- b. 800 × 3 = ____
- c. 64,731 + 59,189 = -
- d. The difference between 214 and 189 is —
- e. Skip count by 8 [8 , _____ , 24 , ____ , ___ , 48 , ____]
- f. In the bar model

100					
35	Х				

, the equation which you can form for it is -

3. Put (<, > or =).

- a. 0.45 (
- 0.5
- c. 82,063 14,589
- - 35,896 + 31,568
- b. 9.000 thousands
- 9 millions
- d. 187 × 4 700 + 40 + 8

4. Find the result.

- 5,470
 - +2,386

b.

- Bassem reads books in a series of mysteries. Each book has 128 pages. How many pages will Bassem read if he finishes 9 of these books?

1. Complete the following.

- a. The smallest prime number is -
- b. 7 + 0.1 + 0.05 = --
- c. If m + 25 = 31, then m =
- d. If $975 \div 3 = 325$, then the dividend is-
- e. 354 + [116 + 243] = [354 + ____] + 243
- f. The value of the digit 4 in the number 3.74 is



2. Choose the correct answer.

- a. $\frac{3}{10}$ is equivalent to
 - A. 30
- **B.** 0.30
- C. 0.03
- D. 0.003

- b. 754,321 ()98,564
 - A. <
- B. =
- C. >

- c. 180 ÷ 2 = ---
 - A. 240
- B. 900
- C. 9
- D. 90

- d. 0.08 = -
 - A. 0.8
- B. 8
- c. 100
- D. 800
- e. The place value of the digit 8 in the number 356.81 is-
 - A. 8
- B. Ones
- C. 0.8
- D. Tenths
- f. 17.856 ≈ _____ (to the nearest Thousand).
 - A. 17,900
- B. 20,000
- C. 18,000
- D. 17,860

3. Write in word form.

- a. 14.3 _
- b. 6 Ones ,8 Hundredths

4. Find the result.

a. 5,761 + 12,888 = -

b. 40 × 30 = ---

c. 6.060 - 3,488 =

- **d.** $1,278 \div 6 =$
- 5. A train has 896 seats for passengers, if there are 8 carriages on the train and each carriage has the same number of seats, how many passengers can sit in each carriage?

1. Complete.

- a. If a 13 = 7, then a = ---
- **b.** $7 \times 243 = [7 \times 200] + [7 \times ----] + [7 \times 3]$
- c. 32 tenths = [decimal form]
- d. 28,702 ≈ ____ (to the nearest Ten Thousand)
- e. 3 kg = ____ g
- f. 15,000 mL = ____ L

2. Choose the correct answer.

- a. Which number is the greatest?
 - A. 549,300
- B. 4,004,030 C. 5,490,003
- D. 5,490,030

- b. _____ is a multiple of 8.
- C. 18
- D. 20
- c. Which of the following is the least number possible formed from the digits: 2,7,0,8,4?
 - A. 2.487
- B. 20,847
- C. 20,478
- D. 87,420

- d. The product of 62 x 9 is _____ A. 1.148
 - B. 114
- C. 152
- D. 558

- e. The number 18 has factors.
 - A. 3
- B. 4
- D. 8

- f. Which number is a factor of 14?
 - A. 3

- D. 7

3. Arrange the following numbers in an ascending order.

6.785.000 , 5,700,726 , 7,456,232 , 6,670,785 , 5,700,624

- 4. Put (< . > or =).
 - a. 5,674 + 2,326
- 12,562 4,562
- b. 6×40

- c. 138 +6
- d. The common multiple of all numbers
- the common factor of all numbers.

70 × 3

5. Find all the factors of each of 30 and 36, then find the greatest common factor of them.

1. Choose the correct answer.

- a. The missing value in the area model representing 29 × 6 is -
- 6 120 ?

- A. 90
- C. 12

B. 54 D. 180

b. In the bar model

3	7	u-				
у	17	,y				

- A. 2
- B. 54
- C. 20
- D. 30

- c. $3 \times 48 = 100 + -$
 - A. 44
- B. 144
- C. 56
- D. 244

- d. —— is a prime number.
 - **A**. 1
- B. 8
- C. 9
- D. 11

- e. 100 × = 1,400
 - A. 1,300
- B. 14
- C. 140
- D. 1,400

- f. is a multiple of 5
 - A. 24
- **B**. 30
- C. 18
- D. 6

2. Find.

- a. 35,896 + 31,568
- c. 240 ÷ 2

- b. 81,063 14,519
- d. 136 x 5

3. Complete the following.

- a. The sum of 12,985 , 36,524 and 10,246 is ———
- **b.** 7 km = _____ m

- c. 16 is 8 times the number —
- d. 40 Thousands = ---- Hundreds
- e. 9,000 mL = ____L

f. 29 × 0 = ----

4. Write each of the following numbers in standard form.

- a. Seven and fifteen hundredths-
- **b.** 50 + 7 + 0.04
- c. 9 Ones ,3 Tenths ,6 Hundredths —
- 5. Ahmed's school has 9 classrooms. If each class donates 50 cans of food to charity.
 How many cans will be donated?

THEME ONE

Number Sense and Operation

FIND

Decimal Place Value and Computation

Concept 1:

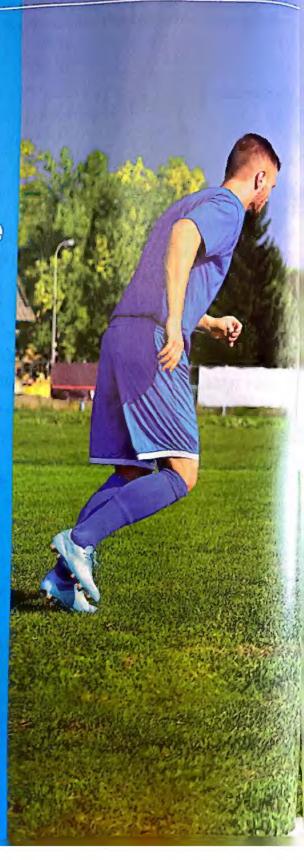
Decimals to the Thousandths Place

▶ Concept 2 :

Adding and Subtracting Decimals

Fast Fact

Each goal in a football game consists of two upright posts and joined at the top by a horizontal crossbar. The distance between the posts is 7.32 m and the distance from the lower edge of the crossbar to the ground is 2.44 m.





Decimals to the Thousandths Place



্ট্রসূত্র পরিবর্গ	leaming@ijedheb
Decimals to the Thousandths Place	Students will read decimal numbers to the Thousandths place. Students will write decimal numbers to the Thousandths place.
Place Value Shuffle	 Students will explain how a digit changes value as it moves to the left or right in a decimal or whole number.
Composing and Decomposing Decimals	Students will compose and decompose decimals in multiple ways.
Comparing Decimals	Students will compare decimals to the Thousandths place.
Rounding Decimals	Students will round numbers to the nearest Tenth, Hundredth, or Thousandth.
	Decimals to the Thousandths Place Place Value Shuffle Composing and Decomposing Decimals Comparing Decimals Rounding Decimals



Decimals to the Thousandths Place

Learn

Decimals to the Thousandths place

- Adecimal is a number that uses a decimal point as 9.58
- Adecimal has one or more digits to the right of a decimal point.

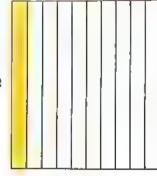
Did You Know?!

In 2009, Usain Bolt set the world record in the 100-metre sprint at 9.58 seconds. He still known as the fastest man in the world

 You can use the following grid to illustrate the meaning of thousandth.

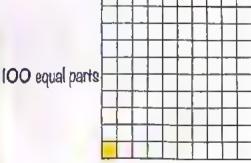
One whole is divided into

10 equal parts



The shaded part =1tenth

 $=\frac{1}{10}(0.1)$



or

The shaded part

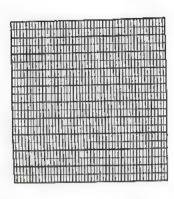
=1hundredth $=\frac{1}{100}(0.01)$

Notes for parents:

- Let your child review place value from the Milliards place to the Hundredth place

10

1,000 equal parts



The shaded part = 1 thousandth $= \frac{1}{1,000} (0.001)$

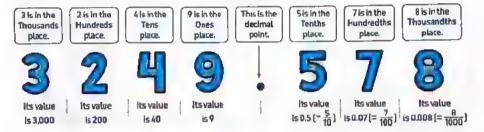
Note that

- Each tenth could be divided into 100 equal parts, each part represents one thousandth
- Each hundredth could be divided into 10 equal parts, each part represents one thousandth.

The value of each digit in any number depends on its place in this number

For Example:

Notice the value of each digit in the number 3,249.578



You can use the large place-value chart to help you read and write decimals as follows:

Milliards Million Thousands Does											Qecima	فأ	
0	Н	Т	0	Н	Ţ	0	Н	T	0		Tenths	Hundredths	Thousandths
						3	2	4	9	•	5	7	8

Standard Form: 3,249.578

Word Form: Three thousand, two hundred forty-nine and five hundred seventy - eight thousandths.

Unit Form: 3Thousands, 2Hundreds, 4Tens, 9Ones, 5Tenths, 7Hundredths, 8 Thousandths.

Help your child read numbers from the Milliards place to the Thousandths place.

Example 1

Write each of the following numbers in the place-value chart.

- Two hundred forty-three and fifty-seven thousandths.
- b. Sixty-seven thousand, three hundred four and eight hundredths.
- Four milliard, five hundred thousand and six thousandths.

Solution [V]



	MitUards		Villian Thousands Ones						Ones	fu j		Decimal	
	0	Н	T	0	Н	T	0	Н	Т	0	Tenths	Hundredths	Thousandths
a.								2	4	3	0	5	7
b.					_	6	7	3	0	4	0	8	
C.	4	0	0	0	5	0	0	0	0	0	0	0	6

Example 2

Write each of the following in word form.

a. 305.183

b. 84.005

£ 3.024.8

d. 12.002.340.14

e. 1,000,000,020.086

f. 700,200,100.4

Solution 🕎

- Three hundred five and one hundred eighty-three thousandths.
- b. Eighty-four and five thousandths.
- c. Three thousand, twenty-four and eight tenths.
- Twelve million, two thousand, three hundred forty and fourteen hundredths.
- e. One milliard, twenty and eighty-six thousandths.
- f. Seven hundred million, two hundred thousand, one hundred and four tenths.

Example 3

In the number 6.354.792

a. What is the value of 6?

- b. What is the value of 2?
- c. What does the digit 4 represent?
- d. What is the value of the digit in the Hundredth place?

Solution 🕎



a. 6.000

- b. 0.002
- c. 4 ones
- d. 0.09

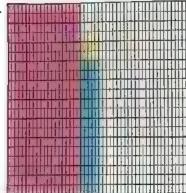
Notes for parents:

Help your child read and write decimal numbers to the Thousandths place.

Example 4

Record what decimal is shown:

а.



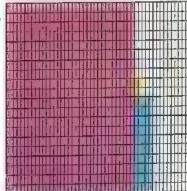
The shaded part = 4 Tenths, 7 Hundredths, 6 Thousandths

= 476 thousandths

$$=0.476\left(\frac{476}{1.000}\right)$$

"Four hundred seventy-six thousandths"

Ь.



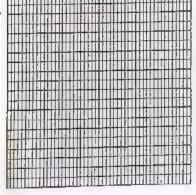
The shaded part - 7 Tenths, 5 Hundredths, 4 Thousandths

= 754 thousandths

$$=0.754\left(\frac{754}{1,000}\right)$$

"Seven hundred fifty-four thousandths"

c.



The shaded part = 6 Thousandths

$$=0.006\left(\frac{6}{1,000}\right)$$

"Six thousandths"

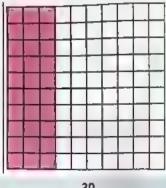
Ask your child to give you more examples on decimals to the Thousandths place.

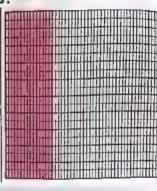
Lesson 1

Remark

You can name the same amount in different ways as follows:







0.300

If you put zeroes after the last decimal digit in a number

, then the value of this number doesn't change.

V

Check your understanding

1. Complete.

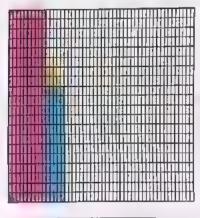
a. In 942,358, the digit 8 is in the — place, its value is

b. In 791.06, the digit 0 is in the _____ place. Its value is

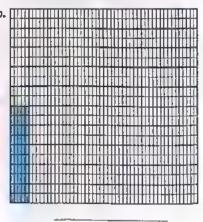
c. In 302.91 , the digit 1 is in the _____ place. Its value is

2. Record what decimal is shown:





Ь



Notes for parents:

Give your child a decimal like 0.8 and ask him/her to name this decimal in different ways.

20

- Desimals to the Thousanoth's Place

on lesson 1

-	DOMESTIC CO.	THE PERSON LABOUR.
	REMEMBER	as STRIBLERS TAND

CARRE

2 PROBLEM SOLVING

From the school book

- 1. Write each of the following numbers in the place-value chart.
 - Three hundred fifty-two and seventy-four hundredths.
 - b. Six hundred forty-two thousand, five hundred one and fifty-one hundredths.
 - c. Nine thousand, eight hundred eighty and twenty-seven thousandths.
 - d. Seven milliard, nine hundred million, two hundred four thousand, sixty and eight tenths.
 - Two hundred sixty-five million, nine hundred forty thousand, thirteen and ninety-one hundredths.
 - f. Four million, five thousand and three thousandths.

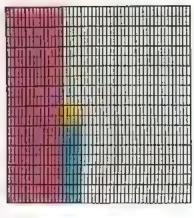
	Milliards	М	illio	ns	The	ousai	nds	,	Ones .				Decimal	5
	0	Н	Т	0	Н	Т	0	н	Т	0	_	Tenths	Hundredths	Thousandths
a.														
b.											·			
C.										_	·			
d.														
e.											,			
f.														

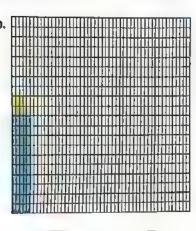
. Write each of the following in decimal form.	
a. 24 hundredths	b. 35 thousandths —
c. 8 thousandths -	d. 7 and 14 thousandths ———
e. 4 and 4 thousandths	f. 1 and 5 tenths ———
g. 9 and 700 thousandths ———	h. 20 and 40 thousandths
i. 7 thousand and 48 hundredths	j. 3 million and 142 thousandths —
k. 2 milliard and 3 thousandths ——	L 4 tenths, 8 thousandths
m. 5 ones, 2 thousandths —	
n. 3 million, 2 hundred, 3 hundredths, 5 tho	usandths ——
o. Three and twenty-five thousandths	[El Beheira 2
	-

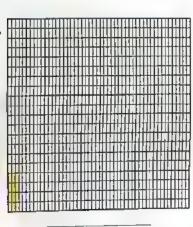
5. In the number 729.458

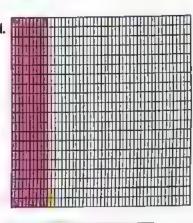
- a. What is the value of 4?
- b. What is the value of 8?
- c. What does the digit 2 represent?
- d. What does the digit 9 represent?
- e. What is the value of the digit in the Hundredths place?

Record what decimal is shown.



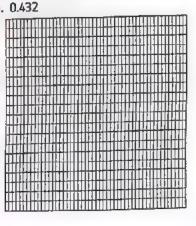




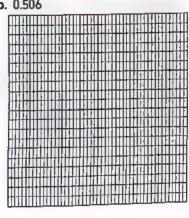


7. Shade in the grids to show the decimal stated.

a. 0.432

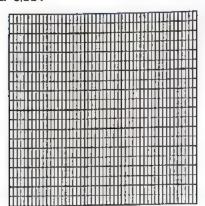


b. 0.506

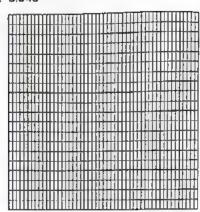


c. 0.004

@ REMEMBER



d. 0.048



- 8. How many whole numbers, tenths, hundredths and thousandths does the number 0.007 have?
- The Purple Heron is tall at 70 to 90 centimeters, but it weighs only 0.50 to 1.35
- kilograms. Below are the weights of three Purple Herons.

For each number, record the following:

- a. The digit that is in the Tenths place.
- The digit that is in the Ones place.
- c. The digit that is in the Hundredths place.

Bird One	0.65 kilogram
Bird Two	1.27 kilograms
Bird Three	0.875 kilogram



10. Math around Egypt: Gas Price Decimals

Look at the list of different petrol prices in Egypt.

- a. Which type of petrol is the least expensive?
- b. Which type of petrol is the most expensive?

000000000000000000

Gas Prices per Liter, April 2021

80 Octane petrol: 6.75 L.E.

92 Octane petrol: 8.00 L.E.

95 Octane petrol 9.00 L.E.

Multiple Choice Questions

Choose the correct answer.

1.	357 1,000 =	[El Beheira 23]	2.	Three and seventy		nundredths ra - Housh Essa 23]
	A. 3.75	B . 0.357		A. 3.57		3.75
	C. 357	D. 3.57		C. 375	D.	35.7
-	The number "four and one thousandths" in st	*	4.	Three and fifty-nine (El Mo	e thous	sandths is —— Shibean El Kom 23)
	A. 4.414	B. 4.141		A. 3.950	В.	3.59
	C. 410.4	D. 4,401		C. 3.059	D.	0.359
^	Which number of the	-	6.	The value of the di	_	
	3 hundredths, 7 ones, A. 0.732	B. 3.72		A. 40,000		4
	C. 7.032	D. 3.702		C. 0.4		0.004
•	The value of the digit 3.514 is ———————————————————————————————————	(Giza - Awseem 23)	8.	The underlined digit place. A. Tenths		314 is in the ———————————————————————————————————
	C. 0.4	D. 0.004		C. Thousandths		Ones
and the second	The place value of th		10.	Which of the following	-	esn't equal four
		B. Hundreds		A. 0.004	В,	0.40
	C. Tenths	D. Thousandths		C. 0.4	D.	0.400
•	•	fa and Al Mokattam 23]	12.	0.300 = A. 30 Tenths		
	A. fifty-three hundre			B. Three hundred C. Three tenths		
	B. fifty-three hundre			D. Thirty thousand	dthe	
	C. thirty-five hundreD. fifty-three thousa			D. Thirty thousan	uuis	
	D. Hith-tilles mone	IIIGUIS				



- ▶ Place Value Shuffle
- Composing and Decomposing Decimals

Learn 1 Place value shuffle

1 If a whole number or a decimal is multiplied by [10], then each d git from this number moves to left one spot on the place-value chart and the value of each digit increases ten times.

For Example.

714 × 10

T.N	illior	E	This	i Upadi	nd a		Ones			(D	ecimals
Н	T	0	Н	T	0	Н	Т	0		Tenths	Hundredths
					-	-7/	-1	-4	4	0	0
					7	1	4	0		0	0

- Record 714 on the place-value chart.
- Shift each digit to the left one spot to get the number "7,140"
- Then 714 × 10 = 7,140
- The value of the whole number "714" increased when multiplying by 10
- The value of 7 increased when multiplying by 10 from 700 to 7,000
 - The value of 1 increased when multiplying by 10 from 10 to 100
 - The value of 4 increased when multiplying by 10 from 4 to 40

Another Example:

714 × 100

I M	illio	15	The	jusai	nds	il de la	Ones	H		in D	eçimals 🦠 🧵
H	T	0	Н	Т	0	Н	Т	0	_*	Tenths	Hundredths
						-7	-1,	-4		0	0
					-7'	-1	-4,	-0		0	0
				7	1	4	O'	0	٠	0	0

Note that

When multiplying by [100] each digit shifts to the left two spots, then the value of each digit increases 100 times.

• Then 714 × 100 = 71,400

Notes for parents:

 Let your child explain how a digit changes value as it moves to left in a decimal of a whole number. 2 If a whole number or a decimal is divided by (10)

, then each digit from this number moves to right one spot on the place-value chart and the value of each digit decreases ten times.

For Example :

	lluer	19	The	jusai	nds		Ones	VI.	neģat!	ļat ≒r iD	ecimals
H	T	0	Н	T	0	Н	T	0		Tenths	Hundredths
						6	1-	5-	_		
							6	1		5	

- . Record 615 on the place-value chart.
- . Shift each digit to the right one spot to get the number 61.5
- Then $615 \div 10 = 61.5$
- The value of the whole number "615" decreased when dividing by 10
- . The value of 6 decreased when dividing by 10 from 600 to 60
- . The value of 1 decreased when dividing by 10 from 10 to 1
- . The value of 5 decreased when dividing by 10 from 5 to 0.5

Another Example:

O.M.	illior	ısî	The	usai	ndsy		Ones	ja -	· • (la E	ecimals:
Н	T	0	Н	T	0	Н	T	0	4	Tenths	Hundredths
						6	1-	5	1		
							6-	1-	-	*5-	
								6		* 1	5

Note that

When dividing by (100) each digit shifts to the right two spots, then the value of each digit decreases 100 times.



Then 615 ÷ 100 = 6.15

Remark

Dividing any number by 10 is the same as multiplying this number by $\frac{1}{10}$

$$50,362 \div 10 = 362 \times \frac{1}{10}$$

· Let your child explain how a digit changes value as it moves to the right in a decimal or a whole number

Example 1

Use the place-value charts to solve each problem.

a. 9.7×10

b. $1.35 \times 1,000$

c. 2.5 ÷ 10

d. 6.2 ÷ 100

Solution [7]

a.	Hin	(Usarl)	nis"		Dina:				Decima	li l
	H	T	0	Н	T	0	•	Tenths	Hundredths	Thousandths
						-8	-	7		
					8	7	4	0		

$$8.7 \times 10 = 87$$

b.	· The	usbi	nds i		Θπ e s				Decima	ls all
	Н	T	0	Н	Т	0	•	Tenths	Hundredths	Thousandths
						_1	_	3	5	
					-1"	~3 F	بسار	5	0	
				-1'	-3	-5×		0	0	
			1	3	5	0		0	0	

$$1.35 \times 1,000 = 1,350$$

C.	Thu	wen	105	-	āmet:	*	-			٤
	Н	T	0	Н	Т	0		Tenths	Hundredths	Thousandths
						2-	,	5		
						0		*2	₹5	

$$2.5 \div 10 = 0.25$$

$$6.2 \pm 100 - 0.062$$

NoteS for parents:

Help your child solve more problems on multiplying and dividing by 10 or 100.

Check your understanding

Use the place-value charts to solve each problem. Fill in the blanks to show how the value of each digit also changed.

a.

85 × 10

Theusende	Ones Decimals:										
0	H	Т	0	-	Tenths	Hundredths					
		-									

- The value of the whole number
 - (increased / decreased)

to ----

6.31 × 100

Thousands	ousandi: Ones: 5.71 Decimals				ecimals	
D	Н	Т	0	٠	Tenths	Hundredths
			_	,		
		-			-	

- The value of the whole number
 [increased / decreased]
- The value of 1 [increased / decreased] when multiplying by 100 from to

b.

942 ÷ 100

Thousands	Ones: Decimals							
0	Н	Т	0	-	Tenths	Hundredths		
				,	_			

- The value of the whole number (increased / decreased)
- The value of 9 (increased / decreased)
 when dividing by 100 from —

 to ————
- The value of 2 [increased / decreased]
 when dividing by 100 from

d.

74.8 ÷ 10

Thousands	Ones 🗸				D	ecimals
0	н	Т	0	•	Tenths	Hundredths
	_	-			_	

- The value of the whole number
 [increased / decreased]
- The value of 7 (Increased / decreased)
 when dividing by 10 from

 to
- The value of 8 (increased / decreased)
 when dividing by 10 from ———
 to ———

Let your child discover how the decimal point moves when multiplying and dividing by 10 or 100

Learn 2 Composing and decomposing decimals

- Composing decimals means (put together)
- Decomposing decimals means [broken apart]
- You can decompose 843.572 in different ways using place-value chart:

1	In this	1 100	almic.				1000-1000		
ĺ	0	Н	Т	0	•	Tenths	Hundredths	Thousandths	
		8	4	3		5	7	2	

▶ 1st way [expanded form]:

843.572 = 800 + 40 + 3 + 0.5 + 0.07 + 0.002

2nd way:

843572 = 843 + 0.572

3rd way.

843.572 = 843 + 0.5 + 0.07 + 0.002

There are many answers that equal 843.572 when composed.



Example 2

Record the number 504.82 in the place-value chart and decompose this number in expanded form then decompose it in two other ways.

ti auc mai	(Lon	Ones	- mod	(0.00)	Decimals					
Q	Н	Ŧ	0		Tenths	Hundredths	Thousandths			
	_									

- -1st way [expanded form]:
- 2nd way :
- 3rd way :

Solution [V]



Thousands	Įm.	Ones	-all		!	Decimals	
0	Н	Т	0	,	Tenths	Hundredths	Thousandths
	5	0	4	,	В	2	

- -1st way [expanded form]: 504.82 = 500 + 4 + 0.8 + 0.02
- $\bullet 2^{\text{nd}}$ way: 504.82 = 500 + 4 + 0.82

• 3^{rd} way: 504.82 = 504 + 0.8 + 0.02

You can choose any other answers.

Notes for parents:

 Let your child begin by reviewing how to write number in expanded form and learn that number can be decomposed in many different ways.

Example 3

Decompose the following numerals using expanded form.

- a. 640.078
- b. Twenty-three and forty-two thousandths.

Solution [V]

- a. 640.078 = 600 + 40 + 0.07 + 0.008
- **b.** 23.042 = 20 + 3 + 0.04 + 0.002



Example 4

Compose each of the following.

- a. $4,000 + 80 + 7 + \frac{1}{10} + 0.002$
- b. $420 \pm 0.2 \pm 0.07 \pm 0.009$
- c. $5,900 + 0.3 + \frac{8}{1,000} + 70 + 2$



a. 4.087.102

b. 420,279

c. 5.972.308



Vicheck your understanding

Complete the following.

Compose: 452.087

Decompose:

2. Compose: 204.005

Decompose:

3. Compose:

Decompose: $540 + 0.2 + 3 + 0.007 + \frac{9}{100}$

Help your child compose and decompose decimals in multiple ways.

Exercise

- Place Value Shuffle
- Composing and Decomposing Desimals

-	DE	ъ.	EM	n	٠.
	KE			۰	u

OUNDERSTAND DARWEY & PROBLEM SOLVING

From the school book

 Use the place-value charts to solve each problem. Fill in the blanks to show how the value of each digit also changed.

a. 85 × 10 = -

Thousands	Ones			4	D	eclmals
0	Н	Т	O	•	Tenths ,	Hundredths
				4		

The value of the whole number [increased/decreased) when multiplying

by 10

The value of the ——— (first digit) multiplying by 10 from ——— to

(increased/decreased) when

 The value of the ______ (second digit) multiplying by 10 from ———— to —

[increased/decreased] when

b. 🕮 57 ÷ 10 = ----

Thousands	Ones			Fhousands Ones	4	Decimals		
0	Н	Т	0	,	Tenths	Hundredths		

- The value of the whole number —— (increased/decreased) when dividing by 10
- The value of the ——— [first digit] ——— [increased/decreased] when dividing.
- by 10 from ______ to _____
- The value of the _____ (second d git) _____ (increased/decreased) when
- dividing by 10 from ——— to

c @ 6.5×10=

Thousands		Ones		Decimals		
0	Н	Т	0	Tenths	Hundredths	

The value of the whole number [Increased/decreased] when multiplying by 10

[first digit] [Increased/decreased] when The value of the multiplying by 10 from — to —

 The value of the [second digit] — [increased/decreased] when ____to____ multiplying by 10 from —

d. 7.3 × 100 =

Thousands	Ones			^ De	ecimals
0	Н	T	0	Tenths	Hundredths

- The value of the whole number ——— (increased/decreased) when multiplying by 100
- The value of the [first digit] [increased/decreased] when multiplying by 100 from ----- to ----
- The value of the ——— (second digit) ——— (increased/decreased) when multiplying by 100 from ———— to —

e. \square 345 \div 10 = -

Thousands		Ones		Decimals		
0	Н	Т	0	Tenths	Hundredths	

- The value of the whole number (increased/decreased) when dividing by 10
- The value of the (first digit) (increased/decreased) when dividing by 10 from — to — ---
- The value of the _____ [second digit] (increased/decreased) when
- The value of the ———— (third digit) (increased/decreased) when dividing by 10 from — to — .

2. Form the place-value chart to solve each prof.	olem	en
---	------	----

- a. 2.5 × 10 = ----
- c. 75 × 10 = ----
- e. 43 × 100 =
- g. 4.9 ÷ 10 = ---- $1.507.6 \pm 10 = -$

- b. 14.52 × 10 =
- d. 1.452 × 10 = -
- f. 45.6 × 100 = ---- (Cairo El Zaiton 23)
- h. 218 ÷ 10 =
- j. 5.7 ÷ 100 = ----[Monofia - Tala 23

In the following problem, record the number in the place-value chart and decompose this number in expanded form and then in two other ways.

a. 😃 34.527

Thousands	Ones				Decimas	
0	Н	Т	0	Tenths	Hundredths	Thousandths

- 1st way [expanded form] :-
- b. 🕮 21.045

Thousands		Ones		- 6	Decimals		
0	Н	Ť	0		Tenths	Hundredths	Thousandths

- 1st way (expanded form):
- 2nd way: _____
- 3rd way: __
- c. 302.504

Thousands		Ones				Decimals	
0	Н	Ŧ	0		Tenths	Hundredths	Thousandths

- 1st way [expanded form]:
- 2nd way:
- 3rd way:

d. 🖾 231.128

Thousands	nds Ones				Decimals	
0	Н	T	0	Tenths	Hundredths	Thousandths

et	
• 1 st way (expanded form):	

• 2^{frd} way :_

and way :

e. 🕮 508.17

Thousands		Ones	Ones			Decimals	
0	Н	Т	0		Tenths Hund		Thousandths

est c	
• 1 st way [expanded form]:	

• 2nd way :

+3rd way :-

4. Write each of the following in standard form.

d.
$$8 + 0.2 + \frac{6}{100} + 0.009 =$$
 [Cairo 23]

e.
$$2 + 0.9 + \frac{8}{100} + \frac{2}{1,000} =$$
 (El Menia - Deir Mowas 23)

35

5. Write the number in expanded form.

- a. Two and forty-one thousandths =
- b. Fourteen and three hundred two thousandths =
- c. Seventy-nine thousandths = ----
- d. 8 tens, 4 ones, 3 tenths, 6 hundredths, 9 thousandths =
- e. 4 hundreds ,7 hundredths ,8 thousandths = -----
- f. Three million, seventeen and eighty-one thousandths =
- g. 156,327.194 = ----



(Aswan 2)

6. Complete each of the following.

- a. 4.208 = +0.2 + 0.008
- c. = 120 + 0.204
- e. 34.012 = 34 + =

- **b.** 70.106 = 70 + 0.1 + -----
- d. ---= 4 + 0.005 + 0.t3
- $f_{1} = 4 + 30 + 400 + 0.008 + 0.02$
- g. Seventy and eight thousandths = ——— -
- i. 283 thousandths = ----+ 0.2 + 0.08
- j, 57 thousandths = 0.007 + ----

h. Sixteen and seven tenths = ——

- k. 15.7 tenths = 1 + ----+ + 0.07
- 1,482 hundredths = 14 + ______



Multiple Choice Questions

Choose the correct answer.

A. 4.53

C. 4.35

B. 5.34

A. 0.756 C. 657

6 ones + 5 tenths + 7 thousandths = -

B. 6.507 D. 6,507 [Aswan 23]

(Cairo - Heliopolis 23)

[Port Said 23].

= 90 + 6 + 0.07

(Cairo - El Marg 23)

[El Kalyoubia 23]

A. 96.7 C. 9.67

5. 0.2+-

A. 7

C. 70

B. 96.07

D. 3.54

D. 9.067

B. 0,7

D. 0.07

4. 489.51 = 489 +

A. 0.51

C. 1.51

B. 51 D. 5.1

6. 3.7 × 100 = -

A. 37

C. 3.700

B. 370 D. 0.37

7. 5.26 × 100 = (Ismailia 23)

= 72

A. 5.260

C. 526

B. 0.526

D. 52.6

8. If multiply decimal number by 10, then decimal point will move to

[Giza - Abo El Nomrous 23]

A. left

B. right

C not move

5,000 not equals -

D. other

9. 0.12×10 $)2.1 \times 10$

(El Beheira - Housh Essa 23)

A. <

B. >

C. =

A. 5×1.000

C. 500×10

B. 50 × 100

[Giza - Awseen 23]

D. 500 × 100

11. 28.4 ÷ - = 2.84

[Aswan - Kom Ombo 23]

A. 10

B. 100

C. 1.000

D. 10,000

12. Which of the following is NOT equivalent to

42.187?

A. 40 + 2 + 0.1 + 0.87

B. 40 + 2 + 0.1 + 0.08 + 0.007

C. 42 ± 0.187

D. 40 + 2 + 0.187

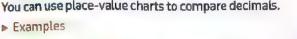


Comparing Decimals



Learn How to compare two decimals

You can use place-value charts to compare decimals.





Compare 2.948 and 2.957

post of the	Ones				Decimal:	S
H	Т	0		Tenths	Hundreoths	Thousandths
		2	4	9	4	8 ^
		2		9	5	7

- Begin with the digit in the greatest place value.
- Compare ones : 2 ones = 2 ones
- Compare tenths: 9 tenths = 9 tenths
- Compare hundredths: 4 hundredths < 5 hundredths

So, 2.948 < 2.957



-	Ones				Decimal			
Н	T	0	,	Tenths	Hundredths	Thousandth		
		0		2	6	0		
		0		2	0	6		

- Begin with the digit in the greatest place value.
- Compare ones : 0 ones = 0 ones
- Compare tenths: 2 tenths = 2 tenths
- Compare nundredths: 6 hundredths > 0 hundredths

So, 0.26 > 0.206

Example 1

Use place-value chart to compare the following decimals:

- a. 52,008 and 52.8
- b. 302 and 3.019
- c. 67.5 and 67.50

Notes for parents :

Remind your child to begin comparing with the greatest place value.

Solution 🕅

12 C)ne:	S of E		Decimals: -					
H	Т	0	٠	Tenths	Hundredths	Thousandths			
	5	2		0	0	8			
	5	2	4	В	0	. 0			
K		1		+					

5=5, 2=2, 0<8 Since, 0<8

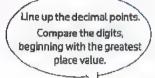
So, 52.008 < 52.8

a.	£1	me				Decinion.		
	Н	T	0	h	Tenths	Hundredths	Thousandths	
		3 .		0	2	0		
			3	4	0	1	9	
	3 - 3	3,	0=	0	, 251	Since, 2	2>1	

So, 3.02 > 3.019

5	a Nime			Total Control	*Teomals		
	Н	Т	0		Tenths	Hundredths	Thousandths
		6	7		5	0	0
		6	7		5	0	0
	6=6, 7=7, 5=5, 0=0 0=0						

So, 67.5 = 67.500





Example 2 ...

Compare 2.135 and 2.137

Solution [V]



To compare 2.135 and 2.137, follow the following steps:

Step 1	Step 2	Step 3	Step 4
Compare the ones. 2.135 2.137	Compare the tenths. 2,135	Compare the hundredths. 2.135 2.137	Compare the thousandths. 2.135
the same number of ones	the same number of tenths	the same number of hundredths	5<7

· Ask your child how is comparing decimals like comparing whole numbers.

Example 3

Compare using "<, > or =".

- a. 0.395
- 1,00

- b. 28 thousandths
- 0.28

- c. 4 ones, 4 hundredths, 5 thousandths
- 4.054

Solution []

a. Since, $\frac{385}{1.000} = 0.385$

So, 0.395 > 0.385

b. Since, 28 thousandths = 0.028

50,0.028 < 0.28

c. Since, 4 ones, 4 hundredths, 5 thousandths – 4.045

50,4.045 < 4.054

Vicheck

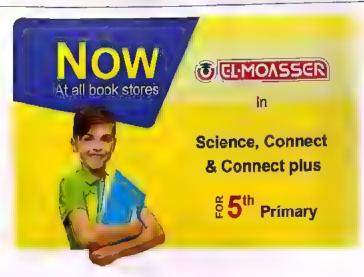
your understanding

Compare using ">, < or =".

- a. 3.204 () 3.24
- c. 20.7 20.077
- e. 9.08 9.079
- g. 4.12 () 4 + 0.1 + 0.007

- b. 19.2 19 200
- d. 1.01 () 1.09
- f. 14.010 14 7
- h. 5 thousandths

0.500



Notes for parents :

Ask your child to explain the strategies he/she uses to compare decimals.

40

on lesson &

Comparing Decimals

	on lesso	173 (4)								
	• REMEMBER	ac juli EDS	TAND (D 似种似	♣ PR	ODLEN S	OLVING		∏ Fron	n the school book
1.	Rewrite the d	lecimals i	n the cl	hart. Use	e the s	ymbo	<" عاد	, < ог =		
					Ones				Decim	als
	a. 4.08	0 '	4.8	Н	Ţ	0		Tenths	Hundredths	Thousandths
			Ones .				Decimals			
	b. 15.3		15.300	Н	Т	0		Tenths	Hundredths	Thousandths
					Ones		,		Decim	
	e. 230.03	() :	230.009	Н —	Т	0		Tenths	Hundredths	Thousandths
2.	Compare the						s">,	< or =".		
	a. 0.2	\bigcirc	0.193	}		b.	0.013		\bigcirc	0.031
	c. 0.007		0.07			d.	₩4	5.057	\bigcirc	45.100
	e. 0.10		0.100)		f.	<u> </u>	9.013	\bigcirc	98.101
	g. 🕮 50.009		5010	00		h.	<u> (1)</u>	0.1	\bigcirc	10 011
	i. 34.56	\bigcirc	3.45	6		j.	0.48			0.480
	k. 🕮 2.01		2.09	9		L	43	4.5		34.500

n. 2.197

p. 3.011

87.03

2.190

m. 87.3

o. 2.19

41

2.179

3,001

3. L. At the Fayoum Basin, temperatures vary greatly. The numbers are the temperatures recorded on one day in May. All numbers are in degrees Celsius. Compare each set of numbers using the symbols "> , < or = ".

- a. 29.9° 30.2°
- c. 40.5° 41.0°

e. 38.80° — 38.8°

- b. 36.5° 35.6°
- d. 35.2° 34.7°

4. Compare the numbers using "> , < or =".

- a. 2.71
- $2\frac{8}{100}$
- c. 1.002
- <u>1,002</u> 1,000
- e. 4.000
- 400 1,000
- g. 3thousandths
- i. 8 tenths
- 0.799
- k. 5.102
- 5+0.1+0.02
- m.8 + 0.009
- 8+0.1+0.001
- o. 7 ones ,5 thousandths () 7.05
- p. 2 ones ,3 tenths ,4 thousandths () 2.34
- 4 ones , 8 thousandths
- r. 3 4 3 ones,4 hundredths



- f. 99.257 () 1,234 tenths
- h. Eighteen thousandths () 0.02
- . 0.402 402 thousandths
- L 4.904 () 4+09+0.004
- 400 +7 + 0.005 n. 407.05



- 5. Circle all the decimal numbers that are greater than 4.3
 - 3.4 , 4.03 , 4.34 , 4.300 , 3.99 , 4.7 , 4.003
- 6. Circle all the decimal numbers that are smaller than 2.104
 - 2.102 , 2.401 , 2.14 , 2.199 , 2.11 , 2.7 , 2.014
- 7. (II) Select the largest number :
 - 1.401 , 1.341 , 1.440 , 1.055 , 1.3 , 1.30 , 1.28 , 1.49
- 8. 🕮 Select the smallest number :
 - 20.09 , 20.1 , 20.001 , 20.011 , 20.10 , 20.010 , 20.9 , 20.21
- 9. Order from least to greatest.
 - a. 1,401 , 1.055 ,1.3 , 1.28

[Cairo - Heliopolis 23]

- b. 1.662 _a 1.616 , 1.661 _a 1.166
- c. 0.096 , 2.56 ,126 , 0.27

- (El Menia 23)
- d. 45 072 , 45.008 , 45.702 , 45.729 , 4.572
- e. 80.21 , 80.012 , 8.102 , 8.012 , 80.09
- Youssef ran 2.2 kilometers during track practice and
 Nader ran 2.099 kilometers.

Who ran the greater distance?



- 11. Give an example of two decimal numbers where the number with more decimal digits is smaller than the other number.

Multiple Choice Questions

Choose the correct answer.

- 1. 3.24 3.239
- B. <
- 2. 25.12
- 25.056
- B. <
- C. =
- D. ≤

3. 36.5 -

A. >

C. =

- [Port Said 23]
- 4. 5.36 >
 - [Cairo Al Khalifa and Al Mokattam : B. 5.362

D. 3.561

(El Beheira)

- A. < C. =
- B. > D. Others
- A. 5.37 C. 5.366
- 5. 19 hundredths 19 thousandths A. >

__ 35.6

- 8. <
- 6. Which of the following is true? A. 0.532 > 0.537

C. 1.019 > 1.1

B, 0.1+3<1.3 **D.** $\frac{18}{10} = 1.8$

B. 4

D. 6

C. =

A >

C =

A >

- 7. 4+0.2+0.05+0.007 4257 hundredths
 - A. >
- C. =
- 348 8. 3.408
- В. <

B. <

B. <

9. 14.1 | 7>14.158

C, 5

- A. 3
- 5.05 10. 5 ones, 5 thousandths

- 11. Which of the following is NOT true?

 - A. 14.14 > 14.014 **B.** $\frac{143}{100} = 1.43$
 - C 2.051 > 2.501 D. 2.005 < 5.002</p>

- - 12. All the following are equal except -
 - A. 0.300

C. =

- C. 0.003
- **B.** 0.3 D. 0.30

Rounding Decimals



Learn Different strategies to round decimals

You can round (approximate) decimal numbers using one of the following strategies:

- Midpoint strategy.
- Rounding rule strategy.

Did You Know?!

Table tennis is one of the world's most popular games, it became an Olympic sport in 1988. A table tennis boll weighs between 2.4 grams and 2.53 grams = 2.5 grams

First Midpoint strategy

To round decimals using midpoint strategy, do as follows:

- Draw a vertical number line.
- 2. Put the two numbers that the given number lies between them.
- 3. Put their midpoint.
- 4. If the given number is at or above the midpoint, round up and if the given number is below the midpoint, round down.

Midpoint

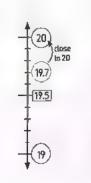
Example 1

Use midpoint strategy to round each of the following.

- a. 19.7 (to the nearest whole number or Unit).
- b. 4.62 (to the nearest Tenth).
- c. 8.765 (to the nearest Hundredtn).

Solution 🕎

- a. •19.7 is between 19 and 20
 - 19.5 is the midpoint between the two numbers
 19 and 20
 - 19.7 is closer to 20 because 0.7 is above the midpoint
 • then 197 ≈ 20



Notes for parents :

 Remind your child with midpoint and rounding rule strategies he/she learned in Primary 4.

Lesson 5

- 4.62 is between 4.6 and 4.7
 - 4.65 is the midpoint between the two numbers 4.6 and 4.7
 - 4.62 is closer to 4.6. because 0.02 is below the midpoint then 4.62 ≈ 4.6



- c. 8.765 is between 8.76 and 8.77
 - 8.765 is the midpoint between the two numbers 8.76 and 8.77
 - 8.765 is closer to 8.77 because 0.005 is at the midpoint , then 8.765 ≈ 8.77



Rounding rule strategy

To round decimals using rounding rule strategy, do as follows:

1. Underline the digit in the place you want to round the decimal number to it.

2. Look at the digit to its right and circle it.



This circled digit is

Less than 5

Leave out the circled digit and the other digits to the right.

Equal to 5 or more

Increase the underlined digit. by one, and leave out the other digits to the right.



Example

Use rounding rule strategy to round the decimal number 18.5376 to the nearest whole number, Tenth, Hundredth and Thousandth.

Solution



- 18.5376 ≈ 19 ¥3<5
- (to the nearest whole number)
- 18.5376 ≈ 18.5 ¥7>5
- (to the nearest Tenth)
- 18.5376 ≈ 18.54
- (to the nearest Hundredth)
- ¥6>5
- [to the nearest Thousandth] 18.5376)≈ 18.538



Remarks

- Rounding to the nearest Tenth, the result should include at most 1 decimal digit
- . Rounding to the nearest Hundredth, the result should include at most 2 decimo digits and so on.

Notes for parents:

 Remind your child to round up if the digit to the right of the place value he/she wants to round is equil. to or greater than 5

46

Example 3

Round each number to the place of the underlined digit:

a. 28.12

- b. 6.247
- **c.** 12.59<u>2</u>8
- d. 47.051

- e. 5.9184
- f. 0.6697
- g. 402.601
- h. 0.9<u>9</u>5

Solution 🕎

- a. 2<u>8</u>02 ≈ 28
- e. 5.9184 ≈ 5.92
- b. 6.2€ ≈ 6.2
 - ,7>s · f. 0.6690)≈ 0.670
- %>5 g. 402.601≈403
- d. 47.0\$1 ≈ 47.1
- h. 0.995 = 1.00

Example 4

- a. Write down the smallest decimal, less than one, that includes only the digits 3,6,4 and 2, then round that number to the nearest Hundredth and to the nearest Thousandth.
- b. Write down the greatest decimal, less than one, that includes 4 digits which are 5,9,2 and 7, then round that number to the nearest Hundredth and to the nearest Thousandth.

Solution [V]

- a. To write the smallest decimal less than one, put the decimal point (0.), then write the given digits arranged ascendingly from the left to the right.
 - The smallest decimal less than one = 0.2346
 - 0.2346 ≈ 0.23
 0.2346 ≈ 0.235
- (to the nearest Hundredth)
 (to the nearest Thousandth)
- b. To write the greatest decimal, less than one, put the decimal point [0.], then write the given digits arranged descendingly from the left to the right.
 - The greatest decimal less than one = 0 9752
 - 0.9752 ≈ 0.98
- (to the nearest Hundredth)
- 0.9752 ≈ 0.975
- (to the nearest Thousandth)



Check

Check your understanding

Round each number to the place of the underlined digit.

a. 8.14<u>3</u>7≂

- b. 5<u>2</u>,5≈ ———
- **c.** 35.1<u>0</u>72 ≈

d. 17.97 ≈

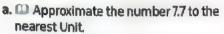
- e. 55.524 ≈
- f. 1.56<u>9</u>8 ~ ——

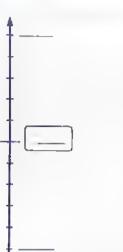
- g. 2,4355=----
- h. <u>0</u>.215≈ ———
- i, 1.5<u>9</u>5 ≈ ----

Remind your child how he/she write the smallest and the greatest decimal formed from given digits.

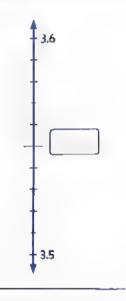
on lesson 5

1. Label the midpoint of the number line. Place the given decimal number at its proper location.

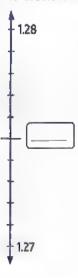




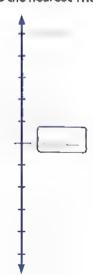
h. @ Round 3.54 to the nearest Tenth.



c. III Round 1.277 to the nearest Hundredth.



d. Round 3.4562 to the nearest Thousan t



2. Round each of the following numbers to the nearest whole number.

d. $0.208 \approx -$

3. Round each of the following numbers to the nearest Tenth.

i, 0.009≈ -

4. Round each of the following numbers to the nearest Hundredth.

f. 3
$$\frac{8}{1000}$$
 ≈ -----

5. Round each of the following numbers to the nearest Thousandth.

6. Round each of the following to the place of the underlined digit.

7. Complete the following table as you round each decimal to the stated place value.

	Number		Round to the nearest										
	Number	Ones	Tenth	Hundredth	Thousandth								
a.	123.3569	123	123.4	123.36	123.357								
b.	528.2025												
c.	43.5426												
d.	21.84792												
e.	0.5297			_									
f.	0.0546												
g.	4.2688												

9. Mazen stops to have a snack and stretch after driving 73.255 kilometers. Round the distance to the nearest Hundredth.

10. Afarmer is building a new fence for her sheep field.
She wants to build a fence around the whole field.
Estimate how much fencing you think she will need by rounding each dimension to the nearest Tenth. Explain your thinking.

125.45 m 89.52 m

- 11. Write the greatest decimal less than one which consists of 6, 4, 3 and 5, then round it to the nearest Tenth and Hundredth.
- 12. Write the smallest decimal less than one which consists of 2,5,1 and 7, then round it to
 the nearest Hundredth and Thousandth.
- 13. Name two decimals with digits in the Thousandths place that should be rounded to the

 Tenth place as 0.3
- 14. Write three decimals , if we round each of them to the nearest Hundredth becomes 12.25
- 15. Write three decimals, if we round each of them to the nearest Thousandth becomes 86.398
- Discover directly the error in each rounded result to the nearest Hundredth, give reason.
 - a. 73.625 ≈ 73.62

- b. 200.081≈200.07
- 17. Read the passage, and then answer the question.
 - There are several cascades along the stream between the two lakes in Wadi El Rayan. The distance between the falls is approximately 30 to 35 meters, and the width of the island dividing the cascades is between 20 and 50 meters.

A geologist measured the exact distance between two of the falls at 31.45 meters and between two others at 36.921 meters. If both distances were rounded to the nearest whole number, would they fall into the range given in the passage? Explain your thinking.

Challenge

- 18. Complete with suitable digits.
 - a. 2.7 ¶ 8 ≈ 2.79 (to the nearest Hundredth)
 - b. 20.12 $6 \approx 20.123$ (to the nearest Thousandth)
 - c. 9.2 6≈9.237 (to the nearest Thousandth)
 - d. 19. 5 = 20.00 (to the nearest Hundredth)

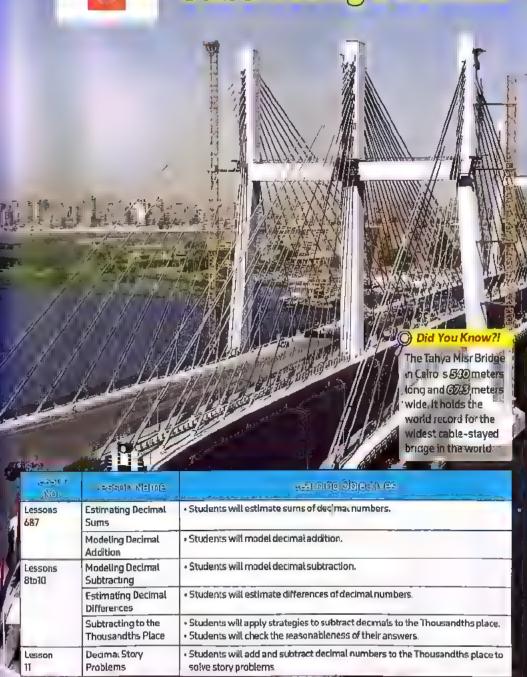
Multiple Choice Questions

Choose the correct answer.

2. Round 2,5698 to the nearest Thousandth. Round 8.099 to the place of the underlined B. 2.560 A. 2.569 digit. D. 2.568 C. 2.57 A. 7.00 B. 8.08 C. 8.090 D. 8.1 4. 1.450 = · 3. 18.58 = (to the nearest Tenth) (to the nearest whole number) B. 1 A. 10 A. 59 B. 19 D. 15 C. 1.5 C. 18 D. 18.6 (Souhag 23) (Giza - Awseem 23) 6. 49,386 ≈ 49.4 (to the nearest Which number could be rounded to 0.58? B. Tenth A. 0.589 A. Ones B. 0.57 C. 0.59 D. Thousandth C. Hundredth D. 0.577 7. 21.345 = - 82.497 ≈ 82.50 to the nearest to the nearest Hundredth) B. Tenth A. 21 B. 21.3 whole number C 21.34 D. 21.35 C. Hundredth D. Thousandth [Calro 23] 9. 2 7 1,000 ~ **10.** 3.8 9 = 3.85 (to the nearest Hundredth) (to the nearest Hundredth) B. 4 A. 2 B. 2.1 A. 3 C. 5 C. 2.01 D. 2.007 D. 6 11. 999.9 ≈ **12.** 3.649 = (to the nearest 2 decimal places) (to the nearest whole number) A. 3.74 B. 3.65 B. 999 A. 990 C. 3.54 D. 4.6 C. 1,000 D. 900 (El Kalyoubia 23)



Adding and Subtracting Decimals



Lessons

- Estimating Decimal Sums
- Modeling Decimal Addition

Learn 1 Estimating decimal sums

Sameh measured the tallness of his son. He found that his son is 1.15 meter tall. Sameh said that his son is about 1 meter tall.

- Estimation is a way to get a number that is close to the actual answer but not exact.
- . In this lesson, you will learn many ways to estimate decimal sums.





Front-end estimation strategy

- . Write the first digit of the number from the left as it is.
- Change the rest of digits into zeroes.

For Example:

- 12.18 is closer to 10.00 = 10
- 417.59 is closer to 400.00 = 400

Example 1

Estimate each of the following sums by using front-end estimation.

a. 3.41 ± 5.22

b. 41,925 + 52,236

Solution 🕎

a. 3.41 + 5.22

Estimate: 3+5=8

h. 41.925 ± 52.236

Estimate: 40 + 50 = 90

Notes for parents:

 Remind your child that he/she just looks at the first digit of the number from the left side, or the highest place value when estimating using front-end strategy.

Benchmark decimals strategy

- . The benchmark numbers are $0, \frac{1}{2}, 1$
- The benchmark decimal for one-half is 0.5 = 0.50 = 0.500



For Example:

- Each of: 0.1, 0.01, 0.001 is closer to 0
- Each of: 0.9, 0.99, 0.999 is closer to 1
- . Each of: 0.52, 0.46, 0.611, 0.395 is closer to 0.5

Example 2

Estimate each of the following sums by using benchmark decimals.

a. 0.41 + 0.58

b. 0.6 ± 0.391

c. 12.492 + 13.659

d. 14.999 + 3.01

Solution 🕎



Estimate: 0.5 + 0.5 = 1

b. 0.6 ± 0.391

Estimate: 0.5 + 0.5 = 1

c. 12.492 + 13.659 = 12 + 0.492 + 13 + 0.659

Estimate: 12 + 0.5 + 13 + 0.5 = 26

d. 14.999 + 3.01 = 14 + 0.999 + 3 + 0.01

Estimate: 14 + 1 + 3 + 0 = 18



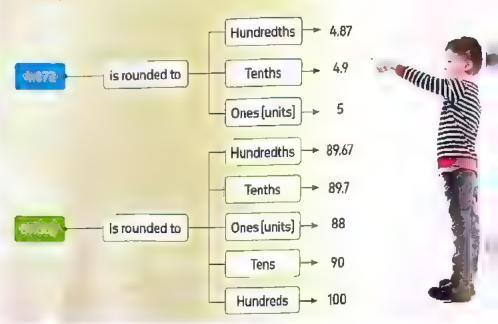
You can separate wholes and parts before using benchmark decimals.

Remind your child that benchmark decimals are common decimals that he/she can use to judge and compare other decimals.

Rounding strategy

You can round decimals in many ways to the nearest Hundredths, Tenths, Ones [units]. Tens., Hundreds and so on.

For Example:



Example 3

Estimate the sum 45.561 + 14.047 by using rounding.

Solution 🕅

- 45,561 + 14.047 Estimate: 50 + 10 60 (to the nearest Tens)
- . 45,561 + 14,047 Estimate: 46 + 14 = 60 [to the nearest Ones]
- 45.561 + 14.047 Estimate: 45.6 + 14.0 = 59.6 [to the nearest Tenths]
- . 45.561 + 14.047 Estimate: 45 56 + 14 05 = 59.61 (to the nearest Hundredths)

Check y

Check your understanding

Estimate each of the following sums by using more than one strategy.

a. 4.39 + 7.12

b. 62,815 + 37109 ______

c. 15.98 + 24.021 — — — — — — — — —

Notes for parents:

Remind your child to round up if the digit to the right of the place value he/she wants to round is entering to or greater than 5.

56

Note that

estimation

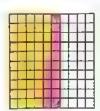
Rounding to the lowest place value will give

you the most accurate

Learn 2 Modeling decimal addition

To evaluate: 0.45 + 0.15

. Use two different colors to create a model of the expression: 0.45 + 0.15



45 Hundredths + 15 Hundredths = 60 Hundredths So, 0.45 + 0.15 = 0.60

• Use the place-value chart.

-(0	lne			Decimals				
Н	Ţ	0		Tenths	Hundredths			
		0		4	5			
		0	٠	1_	5			

- To add decimal numbers

- 11 Put the decimal points under each other.
- Put zeroes to the right of the last decimal digit, so that each number has the same number of digits after the decimal point.
- 3 Add by starting from the right to the left.

To evaluate: 0.22 + 0.53

• Use the model.



22 Hundredths + 53 Hundredths = 75 Hundredths

 $S_0, 0.22 + 0.53 = 0.75$

• Use the place-value chart.

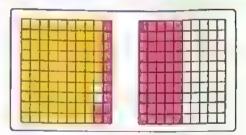
4	10	SAIT	n	. De	Decimals		
Н	T	0		Tenths	Hundredths		
		0		2	2		
		0		5	3		

Another way of modeling decimal addition :

Make sure that when your child adds decimals, he/she puts the decimal points under each other

To evaluate: 0.86 + 0.62

· Use the model.



86 Hundredths + 62 Hundredths = 148 Hundredths 50,0.86 + 0.62 = 1.48

· Use the place-value chart.

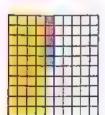
ef	Ine	cimals#					
Н	T	0		Tenths	Hundredths		
		0	,	8	6		
		0	,	6	2		

1		
0	8	6
+ 0.	6	2
1.	4	8



To evaluate: 0.4 + 0.03 + 0.02

• Use the model.



$$50,0.4 + 0.03 + 0.02 = 0.45$$

• Use the place-value chart.

	e[)ne	S)	List _{er}	C,CCIIII C						
ı	Н	Т	0		Tenths	Hundredths					
			0		4	0					
			0	. 0 3		3					
			0		0	2					



Notes for parents:

· Remind your child that there are more than one model for any addition statement.

To evaluate: 2,923.42 + 4,581.3

It is impossible to use the model

So, use the place-value chart.

Thousands	4p.()ne		De	icimals 🛶 🔻	
0	O H T O				Tenths	Hundredths
2	9	2	3	7	4	2
4	5	8	1		3	0



Example 4

Add each of the following.

Solution [V]



Note -

You can add decimals horizontally as follows:

Check your understanding

Add the following.

a. 0.21 + 0 575

b. 213 01 + 27992

c. 3 Hundredths + 4 Thousandths = -

d. 13 Hungredths + 65 Thousandths = -

 Let your child learn that the modeling decimal adding strategy is impossible to use when adding large numbers.

- REMEMBER OUNDERSTAND OSTAN & PROBLEM SOLVING
- From the school book

- 1. Estimate each of the following sums.
 - a. 0.52 + 0.49
 - Estimate -
 - $6.7.99 \pm 4.011$
 - Estimate
 - e. 42,998 + 42,091

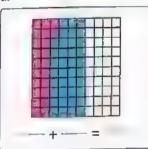
Estimate -

- b. @ 3.451 + 8.091
 - **Estimate**
- d. 1 9.98 + 4.56 Estimate -
- f. 4.981 + 5.019

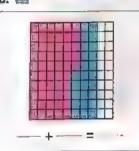
Estimate

2. Write an expression to match each of the following models, then use each model to evaluate the expression.

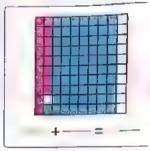
a.



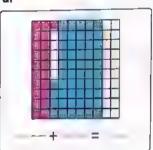
b. 🕮



C.



d.



e.

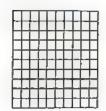


f,



3. Complete each of the following.

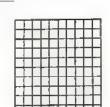
- a. . Estimate 0.13 + 0.23 -
 - Use two different colors to create a model of the expression 0.13 ± 0.23



Record 0.13 and 0.23 in the place-value chart.

Thousands		Ones		D	ecima _s
0	H T O			Tenths	Hundredths

Evaluate: 0.13 + 0.23 = _____



- b. . Estimate 0.05 + 0.05 --
 - Use two different colors to create a model of the expression 0.05 ± 0.05
 - Record 0.05 and 0.05 in the place-value chart.

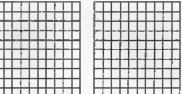
Thousands		Ones		١.	D	ecimals
0	H T O				Tenths	Hundredths
"						

• Evaluate : $0.05 \pm 0.05 = -$





 Use two different colors to create a model of the expression 0.45 + 0.84



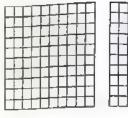
Record 0.45 and 0.84 in the place-value chart.

Thousands	Ones			Decimals		
0	н т о		 Tenths	Hundredths		

Evaluate: 0.45 + 0.84 = -

- d. . Estimate 0.92 + 0.89
 - Use two different colors to create a model of the expression 0.92 + 0.89
 - Record 0.92 and 0.89 in the place-value chart.

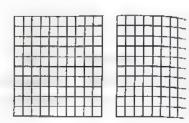
Thousands	()ne:	S	Di	ecimals
0	0 H T 0		Tenths	Hundredths	





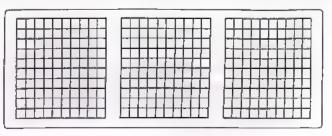
- Estimate 0.97 + 0.42 -
 - Use two different colors to create a model of the expression 0.97 ± 0.42
 - Record 0.97 and 0.42 in the place-value chart.

Thousands	(One	s	Decimals					
0	H T O			Tenths Hundredt					



• Evaluate: 0.97 + 0.42 = -

- f. Estimate 1.9 + 0.62 -
 - Use two different colors to create a model of the expression 1.9 + 0.62



. Record 1.9 and 0.62 in the place-value chart.

Thousands		Ones		,	Decima.s					
0	H T O				Tenths	Hundredths				

• Evaluate: $1.9 \pm 0.62 = -$

4. Find the result of each of the following.

0.231 +0.754

2.53 +0.19 c. 4.89 +0.87

d.

16.34 8.79

7.51 +6.492 9 6 7 . 6 3 91.2

g.

48.42 + 59.096 ħ.

35.001 + 14.999

4.15 +8.6 +9.283

Find the result of each of the following.

6. Find the result of each of the following.

Complete the missing digits.

Complete the following.

b. The sum of 4.287 + 8.65 = -

[El Menia - Deir Mawas 23]

c. The sum of 1.324 + 5.25 =		(Calro - El Sherouk 23]
d. 9 Hundredths + 56 Hundredths =	— Hundredths.	(Cairo - Heliopolis 23
e. 2Thousandths + 3Hundredths =	- Thousandths.	(Cairo - El Sherouk 23
f. 5 Thousandths + 46 Hundredths =	- Thousandths.	(Calro 23
g. 5 Tenths + 5 Thousandths = -	Thousandths.	(Cairo - El Marg 23
If a farmer can lift 94.635 liters of wa can he lift in 4 minutes?	ter a minute in his shadoof,	about how many liters

10. Samar wanted to ride her bike 40 kilometers this week. By Thursday, she had ridden 34.99 kilometers. On Friday, she rode 4.01 kilometers. Estimate to see if she has met her goal. Estimate:

11. Taha has 54.20 L.E. His brother has 45.75 L.E. They want to combine their money to purchase a box of apples for 100 L.E. Estimate to see if they have enough money.

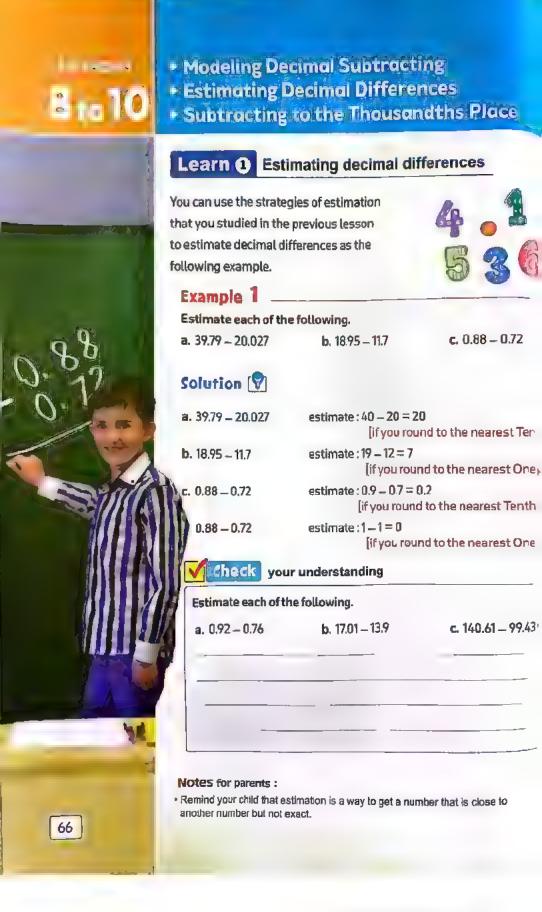
Estimate:



Multiple Choice Questions

Choose the correct answer.

The estimate of the sum of 1. The benchmark of 0.85 is 35.762 + 63.014 is -----[Souhag 23] (Cairo - Al Kha,ifa and Al Mokattam 23) B. 80 A. 99 A. 0.5 B. 1 D. 110 C. 98.76 C. 0 D. 85 ____ [Port Said 23] 4, 0.05 + 0.05 = -3. 4.7 + 3.07 = - · B. 0.1 A. 0.55 A. 7.14 B. 8.4 C. 10 D. 5.5 C. 7.77 D. 7.014 **6.** 1.7 + 0.2 1.33 + 0.51 5. 2 + 0.05 1.7 + 0.7 A. < B. = C. > B. = C. > A. < 8. 2,892,5 + 5,137.05 = -7. 20 + 0.078 = -(Cairo - El Sherouk 23) B. 20.78 A. 20.078 A. 8.029.55 B. 8.029.5 C. 20.708 D. 20.807 C. 8,030 D. 8.029.1 9. 7 Tenths + 3 Tenths = ----10. 4Thousandths + 3 Thousandths = _____ Thousandths. (Port Said 23) (Cairo - El Salam 23) B. 7 A. 7,000 B. 10 A. 1 C. 0.7 D. 0.07 D. 1,000 C. 100 12. 71 Hundredths + 9 Hundredths 11. 4 Hundredths + 35 Thousandths = _____ Tenths. = _ A. 88 B. 80 B. 0.039 A. 0.39 C. 800 D. 8 C. 0.07 D. 0.075



Learn 2 Modeling Decimal Subtracting

To evaluate: 0.52 - 0.14

- 1. Shade a model to represent the minuend (0.52).
- 2. Add X's to represent the subtrahend [0.14].
- Count the shaded squares without [X] which is the difference.
- Use the model.

X	X						$\overline{}$
X	X					Г	Г
X	X.			П	П	Г	Г
X	X						
X							Г.
X							
X							
X							
X							
X							L

52 Hundredths - 14 Hundredths = 38 Hundredths 50, 0.52 - 0.14 = 0.38

To subtract decimal numbers -

- Put the decimal points under each other.
- 2 Put zeroes to the right of the last decimal digit, so that each number has the same number of digits after the decimal point.
- Subtract by starting from the right to the left.

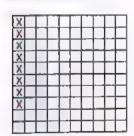
Use the place-value chart.

	he	5	د دند	Decimals									
Н	Т	0		Tenths	Hundredths								
		0	٠	5	2								
		0	٠	1	4								

0. 5/2 _ 0, 1 4

 You can subtract the previous numbers horizontally as follows:

Use the model.



To evaluate: 0.3 - 0.08

30 Hundredths - 8 Hundredths = 22 Hundredths 50,0.30 - 0.08 = 0.22

Use the place-value chart.

)ne	5	1.	• # Decimals -									
Н	T	0		Tenths	Hundredths								
		0	0 . 3		0								
		0		0	8								

	0.	2	2
_	0.	0	8
	0.	3	.gr
		2	10

Note that

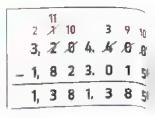
Adding zeroes to the right of the last decimal digit does not change its value.



To evaluate: 3,204.4 - 1,823.015

• It is impossible to use the model. So, use the place-value chart.

'innusinas)ne	ST.	last.		Decimals					
0	Н	T	0	•	Tenths	Hundredths	Thousandths				
3	2	0	4		4	0	0				
1	8	2	3	i	0	1	5				



Example 2

Subtract each of the following.

a. 5.43 - 2.21

- b. 8.6-6.51
- c. 20 11.624

Solution 🕎

a,

b.

5 10

Ġ.



Check your understanding

Subtract each of the following.

- a. 2.325 0.214
- **b**. 12.78 3.5
- c. 97 Thousandths 49 Thousandths.
- d. 7 Hundredths 32 Thousandths.

Notes for parents:

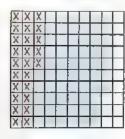
Remind your child that adding zeroes to the right of the last decimal digit does not change its value

Subtracting to the Thousandths Place

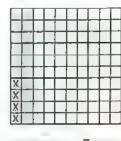
- ERSTANE
- O APPET
- ROBLEM SOLVING
- From the school back

- 1. Estimate each of the following.
 - a. 2.62 1.59 estimate -
 - a. 35.9 10.8 estimate
 - e. 0.951 0,729 estimate

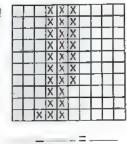
- **b.** 4 2.419 1.240 estimate
- d. 214.024 113 78 estimate -
- 2. Write an expression to match each of the following models, then use each model to evaluate the expression.

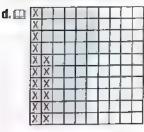


b.

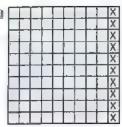


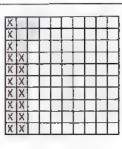
c. 🕮



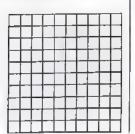


e. 🕮

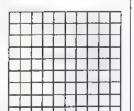


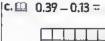


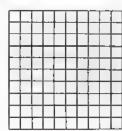
- 3. Create a model to match each of the following expressions and evaluate each of them.
 - a. 0.67 0.49 = -



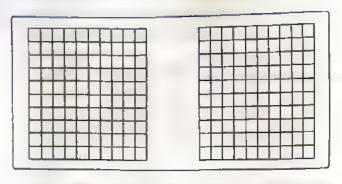
b. 4 0.1 - 0.09 =



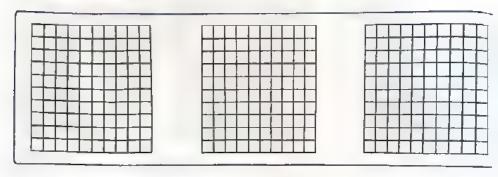




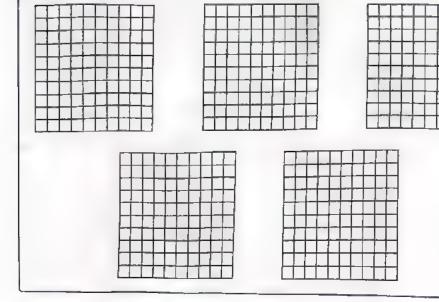
d. (1) 1,23 - 1,02 =



e. 2.34 - 1.19 =



f. (14 4.14 -- 3.09 = ----



4. Complete the table.

The expression	Estimating difference	Actual difference
a. 3.94 – 1.23 =		
b. 🗀 29.98 11.99		
c. 🕮 0.97 – 0.82 =		
d. 🕮 5.05 – 4.15 =		
e. ① 4.45 – 4.32 =		

5. Find the result of each of the following.

a.		0. 7 8 1 - 0. 5 3 1					þ.	b. 0. 5 9 3 - 0. 1 9 4					c. 0. 5 - 0. 3 7 5				' 5	<u>i</u>						
d.	3,	2	1	8.	9	7	5	e.		4,	5	2	4,	6	2		f.		4,	6	1	1.	3	
	_	- 2	- 1	-8	8	5	3			7	A	q	8.	-1	7	4		_	1	9	8	2	4	- 5

6. Find the result of each of the following.

[Aswan - Kom Ombo 23]

7. Complete.

f.
$$-3\frac{3}{5} = 7.634$$

h.
$$-41.41 = 3.8$$

Find the missing digits.

d.

	5			8	
-	1	٠	4	1	3
),	3		7

ŀ		2	9	9.			
	-			0	4	5	7
		2	4	3.		3	Ö

ř.

Į	J	Ļ],	لِــ	
_	2	3		9	7
	1	8		9	5

Put the suitable relation (< . = or >).

a. 3.5 - 2.1

	3.5 + 2.1
[Alexandria -	First Montaza 23)

b. 1.471 – 0.53

0.95
0.75

c. 7.32 – 1.93

6.78 – 0.4

d. 58.003 - 57.03

e. 99.89 - 90.09

g. 6.18 + 3.82

\bigcirc	10 - 1.01
\bigcirc	87.56 – 77.5

f. 4.722 - 0.009 h. 0.2 - 0.05

_	
	49 _ 475

8 - 3.228

Evaluate each difference. Then identify each digit's place value.

a. 98 Thousandths - 5 Thousandths - - Thousandths

Thousandths

b. 57 Thousandths – 12 Thousandths = ____ Thousandths

Place value: Hundredths and

Place value: — Hundredths and — Thousandths

c. 4 32 Thousandths – 15 Thousandths = —

— Thousandths

——Thousandths Place value: Hundredths and —

e. 7 Hundredths - 17 Thousandths = ----- Thousandths

d. 9 5 Hundredths – 24 Thousandths = ——— Thousandths

Place value: ——— Hundredths and ——— Thousandths

f. 8 Tenths – 42 Thousandths = — Thousandths

Place value: Tenths, — Hundredths and — Thousandths

Multiple Choice Questions

Choose the correct answer.

- 1. 2.419 1.240 = -
 - A. 1.230
- B. 1179
- C. 1.239
- D. 3.659

[Aswan 23]

- 2. Estimate 4.09 2.99 is
 - A. 1

- B. 1.5
- C. 2.5
- D. 6

[Cairo - Helipolis 23]

- 3. 7 Tenths = 7 Thousandths =
 - A. 0.693
- B. 0.63
- C. 6.3
- D. Zero
- 4. 7 Tenths 63 Hundredths
- Hundredths, (Cairo El Nouzha 23)
 - A. 70
- B. 700
- C. 7
- D. 7000

- 5. 7 Hundredths 7 Thousandths
 - = ____Thousandths.

[Cairo - Al Khalifa and Al Mokattam 23]

- A. 7 C. 63
- B. 0
- D. 77
- 6. 99.9 9.99 = -----
 - A. 90.09
- B. 90.9
- C. 8919
- D. 89.91

- 7. 77.55 1.9 76.21 0.8
- & A. >
- 8. <
- C. =

1681

- 8. 3.2 + 4.05 7.05 + $\frac{1}{2}$
 - A. >
- B. <
- C. =

(Giza - Awseem 23)

- 9. 94. 1 8 9.82 = 84.46
- ⁶ A. 1

8, 2

C. 3

- D. 4
- 10. 9 4.653 =
 - A. 5.347
- B. 4.347
- €. 3.347
- D. 5.653

- 11. Which of the following expressions
 - represents the model?
 - A. 0.23 0.04
 - B. 0.4 0.23
 - C. 0.04 0.023
 - D. 40 23
- **12.** 9.3 — = 8.254
 - A. 1.146
 - B. 1.46
 - C. 1.046
 - D. 17.554



Decimal Story Problems

Learn

How to solve story problems?



- Read carefully and determine what is being asked.
- 2. Plan and write an equation or expression to spive the story problem.
- 3. Solve the problem and be sure to include units in your answer.
 - 4. Check the reasonableness of your answers.









Example

Soha saved 17.25 L.E. and her brother Amgad saved 8.5 L.E. Find the sum they saved.

Solution [7]



The sum they saved = 17.25 + 8.5 = 25.75 L.E.

Example 2

Wael has 14.75 pounds and his sister Mariam has 950 plasters. Find the difference between what they have in pounds.

Solution 🕎



The difference = 14.75 pounds - 950 piasters = 14,75 pounds = 9.5 pounds = 5.25 pounds



Example 3

Waleed bought a pair of trousers for 89.6 L.E. and a shirt for 30.75 L.E. if he gave 200 L.E. to the shopkeeper,

how much change remained with Waleed?

Solution [V]



- The price of pair of trousers and shirt = 89.6 + 30.75 = 120.35 L.E.
- The change remained with Waleed = 200 120.35 = 79.65 L.E.

Notes for parents:

 Some story problems have hidden question or questions that must be answered before you can solve the problem. You have to determine what operation to use and what strategies you will use to help you figure out how to solve the problem.

Decimal Story Problems

REMEMBER OUNDERSTAND CAPPLEY

🖧 PROBLEM SOLVING

From the school book

 Ola saved 17.25 pounds and her brother Hosam saved 8.5. pounds.

(Giza - Awseem 23)

Find the sum they saved.



Salma has 90.5 pounds, she bought a toy by 64.75 pounds. How much money remaining with Salma? [El Kalyoubia 23]



The sum of two numbers is 65.324 and one of them is 4.21 Find the other one. [5ouhag 23]



 A farmer has a piece of land. Its area is 80.74 m². He planted a part of it, its area is $53.2 \,\mathrm{m}^2$. [Beheira - Housh Essa 23] Find left area without planning.



Fares bought 9.8 ki.ograms of apples, 4.6 kilograms of fig. Find the total weight of apple and fig together?



(Cairo El Zalton 23)

6. Evon has 1.275 kg of flour, she wants to make a cake for her children. If the cake needs 2 kg of flour. How many more flour does Evon need ? [Cairo - El Nouzha 23]



Hossam has 4.25 LE, and his sister. Hend has 980 P.T.

Find the difference between what they have in pounds.



Hanaa has 200 pounds. She wants to buy a pair of shoes for 99.8 L.E., a bag for 45.75 L.E. and a dress for 70.25 L.E. Can she buy all what she wants? Why?



9. Nile perch is 110 centimeters long and more than 5 years old. It weighs 113,39 kilograms and the vundu catfish weighs 38.1 kilograms and is 188 centimeters long. What is the total mass of both the Nile perch and the vundu catfish?



- 10. Pead the passage and then respond to the questions.
- You will now travet from Khartourn to Juba in South Sudan to see the source of the White Nile. This trip is 1,941.2 kilometers. Juba is also on the bank of the White Nile. From Juba, you will travel on to Jinja, Uganda. It is a distance of 687.9 kilometers. Jinja is located near the source of the White Nile. How long is your journey from Khartoum to Jinia?
 - a. Copy the place-value chart and record the addends.

Thousands	Ones			Decimals		
0	Н	Ť	0	Tenths	Hundredths	Thousandths

Write and solve an addition equation using the two decimal numbers.

11. 🕮 Read the passage and answer the questions.



The Tahya Misr Bridge was built in 2016 in Cairo. It serves as a connector across the Nile from northern and eastern Cairo to western Cairo. The bridge is 540 meters long and 67.3 meters wide. It holds the world record for the widest cable-stayed bridge in the world The longest cable-stayed bridge is the Jiaxing-Shaoxing Sea Bridge in China. It is 11.7 meters thinner than the Tahya Misr Bridge. How wide is the Jiaxing-Shaoxing Sea Bridge?

- 12. The total length of the Tahya Misr Bridge is 16.7 kilometers. If Rami travels the length of the Tahya Misr Bridge and then returns, how many kilometers in total did he travel? Write an equation and your answer.
- 13. The total length of the Tahya Misr Bridge is 16.7 k.lometers. Salem rode his bike along the pedestrian section of the bridge. He rode 3.25 kilometers before he had a flat tire. How many more kilometers does he need to travel?
- 14. (1) The Tahya Misr Bridge was built using 200 cranes. The cranes varied in size and weighed between 6.44 and 544.3 tons (1 ton = 1,000 kilograms). What is the difference between the lightest crane and the heaviest crane?
- 15.
 Rashad and his father went on a fishing trip to Lake Nassar. They each caught a huge vundu catfish. The first one weighed 53.25 kilograms and the smaller one weighed 46.8 kilograms. How much did the fish weigh in all ?

Unit One Assessment



1. Choose the correct answer.

1. The value of digit 4 in the number 32,041 is

A. 4

8. 0.4

C. 0.04

(Giza - El Agouza 23)

D. 0.004

2. 5.023 | 5.019

A <

B. >

C. 1

[Et Kalyoubia 23]

3. Which number could be rounded to 0.69?

A. 0.679

A. 177

B. 0.698

C. 0.68

D. 0.686

4. 1 ÷ 0.7 + 0.07 = —

B. 1.77

C. 77.1

D. 1.71

5. Acar covers 2.5 km in one minute, then the distance covered in 3 minutes =

[Cairo - El Salam 23]

[El Menia 23]

km.

A 75

A. 4.218

B. 5,7

C. 7

D. 5.4

6. 42.18 × 10 = _____

' /D 10

(Giza - Awseem 23) D. 4,218

7. 55.5 - 5.55 = ____

B. 421.8

B. 50.5

C. 42.18

(Cairo - El Nouzha 23)

/. 55.5 - 5.55 - ----

A. 50.05

C. 49.95

4. 8 Thousandths + 95 Hundredths = -Thousandths [El Menia - Der Mawas 23

D. 49.59

Complete the following.

1. 0.0257≈ ———[Rounding to the nearest Thousandths]

[Giza 2]

2. 8 + 0.2 + 0.03 + 0.006 = [In standard form]

(El Beheira 21

3. 23.578 ≈ ——— (To the nearest Tenths)

(Calro 25

- 5. 461.12 ÷ 10 = ----
- 6. The value of 7 in the number 5.167 is ----

[Cairo - El Neuzha 23, Monofia - Tala 23]

7. 2 × ——— = 200 000

(Port Said 23)

8. 36.479 ≈ 36.50 (to the nearest

(Glza - Awseem 23)

3.	Choose the correct ans	wer		
-	1. The place value of 8 in	n 85.324 is ———		(Souhag 23)
	A. Tenths	B. Tens	C. Hundredths	D. Hundreds
	2. 1.5-0.75=			(Alexandria - West 23)
	A. 0.75	B . 7.5	C. 1.8	D , 1.25
	3. 0.3 3Thousandt	ns.		(Cairo - El Marg 23)
	A. <	B. >	c. =	
	4. 34.6 x = 34	.600		(El Beheira 23)
	A. 10	B. 100	C. 1,000	D. 10,000
	5. The number (fifteen	and fifteen thousand	ths) in expanded form i	s
	A. 10+5+0.1+0.00			
	C. 10+5+0.01+0.0	(Alexandria - West 23) 75 B. 7.5 C. 1.8 D. 1.25 3 Thousandths. B. > C. = = 34,600 [El Beheira 23] B. 100 C. 1,000 D. 10,000 number (fifteen and fifteen thousandths) in expanded form is + 5 + 0.1 + 0.005 B. 10 + 5 + 0.05 + 0.001 + 5 + 0.01 + 0.005 D. 10 + 5 + 0.1 + 0.05 0.15 =		
	6. 0.3 + 0.15 =			(Aswan 23)
	A. 0.45	B , 0.25	c . 0.20	D. 0.18
	7. Rounding the number	er 56.284 to the neare	st Hundredths is ———	_
	-			
	A. 56.28	B. 56.82	C. 56.3	D. 56.29
4.	. Answer the following o	uestions.		
				(Cairo - Heliopolis 23)
	her school to her gra	ndmother home a dis	tance 2.09 km.	en she walked from
	3. Decompose the num	nber 60,047 using the	expanded form.	(Cairo - Et Marg 23)
	4. If the sum of two de what is the greater		and the smaller numbe	r of them is 4.992 ,
				79

THEME ONE

Number Sense and Ope

FIND

Number Relationships

Concept 1:

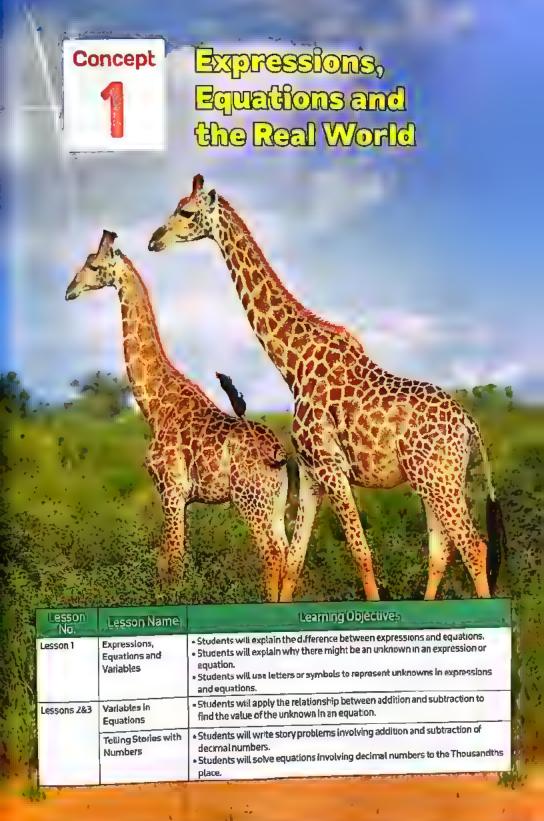
Concept 2:

Facigots and Militinges

Did you know ?!

Graffes are the worlds tallest living land animals. An adult male can grow to around 5.5m. that's talle than three adult humans!











Learn () Mathematical expressions and equations

25 + ? = 52

Sameh saved 25 L.E. to buy his favourite meal which costs 52 L.E.

How much does Sameh need to save more?

You can translate this problem into a mathematical statement contains a missing number as

If you replace the missing number by any letter [x,y,a,b,...], you will get:

The statement 25 + x = 52 is called an Equation and the used Letter "x" is called a symbol, variable or unknown.

Natinematical Expression

Mathematica: expression is a statement contains numbers or numbers and symbols separated by one or more operations as: $[+, -, \times$ and $\div]$ and doesn't contain the equal sign "="

▶ Examples:

- +7.4 + 2.5 1.5.49 - x - 24.5
- •10×3÷5 . 42 ÷ K
- 2.5 + m •15÷3×2

Education.

Equation is a mathematical expression contains the equal sign "="

Examples:

- · 24.8 x = 17.5
- $\cdot 36.5 + 14.1 = k$
- -4.2 + 1.5 = 8.9 3.2
- 7.36 + 1.036 + 2.5 = b

Notes for parents:

· Ask your child to explain the difference between expression and equation.

Example 1

Read the following mathematical statements, then sort them into equations, expressions or neither.

 $\cdot 13.35 + x = 16.25$

· 25.06 + 6.2 + 5

-42 + k = 3.15

- 55 m = 17
- Sara bought a shirt for 145.75 L.E. and a skirt for 189.5 L.E.
- $.30 \times m = 300$

- y = 2.55 + 3.13 + 7.15
- Sum of two numbers is 85.25 and one of them is 25.15
 What is the other?
- \bullet 2.5 + 3.6 = 1.8 + 4.3

•z+2+5





Solution 🕎

Equations	Expressions	Neither
• 13.35 + x = 16.25 • 55 - m = 17 • 30 × m = 300 • y = 2.55 + 3.13 + 7.15 • 2.5 + 3.6 = 1.8 + 4.3	■ 25.06 + 6.2 + 5 ■ 42 + k = 3.15 ■ z ÷ 2 + 5	 Sara bought a shirt for 145.75 L.E. and a skirt for 189.5 L.E. Sum of two numbers is 85.25 and one of them is 25.15. What is the other?



Vidneck your understanding

Write "equation, expression or neither" in front of each statement.

- a. Hany saves 15 L.E. every day. How much does Hany save in a week?
- b. 2.45 + 13.12 5
- c. 1.8 + x = 2.8
- d. 3.6 + 1.4 5
- e. 35.45 k = 15
- f. The sum of two numbers is 13.8

- [_____]
- [----]
- [-----]
- [-----]
- Explain that the equation doesn't change if the symbol is changed. For example, the two equations 2.5 + x = 3.4 and 2.5 + y = 3.4 are equivalent.

Equations in real world:

You can use many equations in your daily life, sometimes you need to write equations to he you solve story problems.

Example 2

Youssef has 90 L.E. Youssef and his sister Sandy have

together 150 LE.

If their sister Eman has 110 L.E.,

write an equation to represent each of the following:

- a. The sum of money that Youssef and Eman have.
- b. The money that Sandy has.

Solution [7



- a. 90 + 110 = x
- **b.** 150 90 = yor 90 + y = 150

or 150 - y = 90



The symbol x represents the total money that Youssef and Eman have.

W MATH IDEA

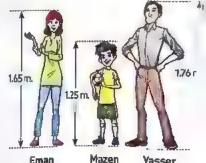
The symbol y represents the money that Sandy has.

Check

your understanding

Yasser, Eman and Mazen, their heights are shown.

- a. Write an equation to represent the sum of heights of Eman and Mazen.
- **b.** In the equation 1.65 + x = 1.76, what does the symbol x represent?



Eman

Yasser

Notes for parents:

Let your child use letters to represent unknowns in equations.

Expressions, Equations and Variables

• REMEMBER

• UNDERSTAND

O APPOY

R PROBLEM SOLVING

From the school book

1. Mark (/) for the correct answer.

	Equation	Expression	Neither
3.6 + x + 5.45			
2+3=4+1			
35.6 + 4.23 = x			
Sum of two numbers is 15			
$8.43 - 2.34 = \gamma + 2.85$			
15.68 more than a number			
k-15.8 + 7.18			

2.	Write equation,	expression	or neither	between	the two	brackets

$$g. 4.7 + 3.6 = M$$

$$1.6.4 + 3.2 + 8$$

m. 56 - x = 47.5

- 3. Write an equation with a variable to represent each of the following.
 - a. The sum of a number and 6.5 is 9
 - b. A number if added to 17 the sum is 2.8
 - c. If 9.23 is subtracted from a number, then the result is 23.15
 - d. Sum of two numbers is 1735 and one of them is 14.15
- 5. In the toy store, Sameh saw the opposite three toys, Sameh had 42 L.E., then he wrote some equations, what does the variable represent in each equation?
 - a. 64.5 + 36.75 = x



5 36 75 LE

b. 45.25 - 36.75 = y

c. 64.5 - 42 = b

d. a + 42 = 45.25

e. 64.5 + 45.25 + 36.75 = d

f. 45.25 + 36.75 - 42 = m

- 6. 🕮 If Gulf of Suez is 275 km long and Agaba Gulf is 180 km long
 - Mariam wrote two equations to compare the lengths of the two gulfs.
 Here are her equations.

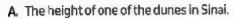
•180 +x = 275

• 275 180 = x

What does the letter x represent in these equations?

- A. The length in kilometers of one gulf
- B. The difference in kilometers between the two lengths.

- C. The width of Sinai Peninsula.
- D. The distance in kilometers between the gulfs.
- If Mariam were to solve both of these equations correctly, what would be true?Select the two correct answers.
 - A. The value of x would be the same.
 - B. The answer to 275 180 would be 85 km.
 - C. The difference between the two lengths would be 95 km.
 - D. The distance in kilometers between the gulfs would be 95 km.
- 7. Adham was comparing the heights of sand dunes in the northern part of Sinai Peninsula in meters. He wrote the equation 27 18 = x
 What does the x represent?



- B. The sum of the heights of two dunes in Sinal.
- C. The difference between the tallest and shortest sand dunes.
- D. The distance between the tallest and shortest sand dunes.



8. If Farha knew that the sum of the he ghts of two sand dunes is46 meters and one of the dunes is 18.25 m high, which equation could

she write to find the unknown height? Select the two correct answers.

B.
$$18.25 + 46 = x$$

C.
$$46 - 18.25 = x$$

D.
$$\times -18.25 = 46$$

- 9. Ehab wrote the equation 42.7 + 38.3 = x If each of the numbers represents the height of one of the dunes, what does x represent?
 - A. The height difference between the dunes.
 - B. The sum of the heights of both dunes.
 - C. The height of the taller dune.
 - D. The distance between the dunes.



Choose the correct answer.

Which of the following represents on equation?

[El Beheira 23]

A. 4.8 + 2.5

B. x = 3.14 = 5

C. v+4.8

- D. 9-b
- 2. Which of the following is an equation?
 - A. 15.28 x + 1.3

- B. 2.45 + x = 1.36 + 5.48
- C. Ramy bought two toys for 75.75 L.E. one of them is for 35.5 L.E. What is the price of the other?
- D. 2136+x
- 3. Which of the following is an expression?
 - A. 2.36 + x = 14.78C. 13.15 + 2.8 - x

- B. Sara saved 20 L.E. per day
- **D.** 1.75 + 1.25 = 2.1 + 0.9
- 4. Which of the following is a mathematics expression?
- (Cairo El Salam 23)

[Aswan - Kom Ombo 23]

A. m+6=9

B. 1.2 - m = 0.2

C. 3+6=9

D. m + 44

- 5. m + 8.5 = 10 is called
- (Souhag 23)

- The mathematical phrases: 7.5 + 3.6 = m represents

- A. multiplication C. expression
- B. division
- D. equation
- A. equation B. variable C. expression

D. Inequality

number equats 15". Which of the following

- y + 12 is called
- (El Kalyoubia 23)
- 8. I Basma wanted to write an equation with a variable to represent "12.5 plus a

- B. equation
- A. mathematical expression
- C. place value

- would be correct? A. 12.5 + 15 = x
 - B. 12.5 + x = 15

D. value

- C. 15 + x = 12.5
- **D.** x = 15 = 125

- 9. If we subtract 5.23 from a number to get 9.42, then the suitable equation

 - \triangle 5.23 -x = 9.42
- **B.** 9.42 5.23 = x
- $C_{x} = 5.23 = 9.42$
- D. x + 5.23 9.42
- 10. Suzan walked 1.63 km. in the first day and 1.72 km. in the second day, then the equation which represents the walked distance in the two days is
 - A. 1.72 1.63 = d
- B. d = 1.63 + 1.72
- C. d+1.63=1.72
- $D_1 = 1.72 d = 1.63$

- Variables in Equations
- Telling Stories with Numbers



Learn 1 Variables in equations

Solving equation means finding the value of the variable in the equation.

- You can solve equation in many ways:
 - Mental math

Example: 15 + x = 18

What number should be added to 15 to get 18?

The answer is 3

then x = 3

Using bar model

Example: 4.76 - b = 2.25

4.	76
b	2.25

b = 4.76 - 2.25 = 2.51

Inverse operation

Example: y = 3.45 = 1.32

, then y = 1.32 + 3.45 = 4.77



Example 1

Solve the following equations.

a.
$$3.2 + P = 10$$

b.
$$2.13 + 3.45 + h = 7.85$$

c. 5.83 - k = 3.454

Solution [V]

You can use any way to solve an equation.

a. Using mental math strategy:

$$3.2 + P = 10$$

. the number if we add to 3.2 you get 10 is the number 6.8

Check your answer Replace the variable "P" by 6.8 3.2 + 6.8 = 10, then the solution is correct.

Notes for parents:

 If your child struggles to see the relationship between the numbers, review fact (families.

b. Using inverse operation strategy:

$$2.13 + 3.45 + h = 7.85$$

 $5.58 + h = 7.85$

Check your answer Replace the variable "h" by 2.27 , 2.13 + 3.45 + 2.27 = 7.85 , then the solution is correct,

c. Using part-to-whole bar model strategy:

$$5.83 - k = 3.454$$

5.4	B3
k	3.454

$$k = 5.830 - 3.454 = 2.376$$

Check your answer
Replace the variable "k" by 2.376

> 5.83 – (2.376) = 3.454

then the solution is correct.

Theck your understanding

Solve each of	the followin	g equations.
---------------	--------------	--------------

a. 6	5.45	+ X	= 10	1.48
------	------	-----	------	------

b. k = 6.18 = 2.59

	C.	2.85	+ 3.152 +	n = 7
--	----	------	-----------	-------

d. 3.36 + 2.12 = 1.834 + h

Notes for parents :

· Let your child check his/her answer using fact family.

Example 2

Hany was travelling to Alexandria from his home which is at a distance 243.865 km. He covered a distance 115.782 km.

What is the remaining distance to Alexandria?

Solution [V]



- The total distance = 243,865 km.
- (Whole)
- The covered distance = 115.782 km. (Part)
- The remaining distance = x km, [Part]
- The equation is x + 115.782 = 243.865
- Subtract to find the part [x]

$$x = 243.865 - 115.782 = 128.083 \text{ km}.$$

115.782 Another solution using inverse

243,865

operation x + 115.782 - 243.865

x = 243.865 - 115.782= 128.083

Check your answer:



(Yes it is correct)

Check your understanding

1. A truck carries 1.35	ton of fruits and 2.456 to	n of vegetables.	What is the total l	oad of
the truck?				

2. Hany has 73.25 L.E. He spent 10.75 L.E. Find the remainder with him?

Help your child write the equation to represent a story problem with an unknown quantity.

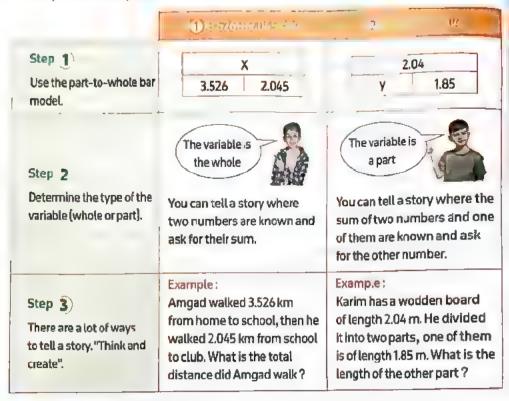
Learn 2 Telling a story

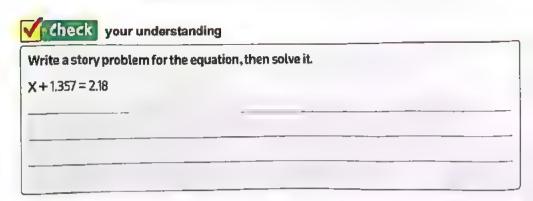
If you are given the two equations:

1 3.526 + 2.045 = X

(2) y + 1.85 = 2.04

How do you tell a story modeled by each equation?





Notes for parents:

Help your child write his / her own story for each equation in this page.

on lessons 263

Exercise

- Variables in Equations
- ▶ Telling Stories with Numbers

• REMEMBER • UNDERSTAND ORANG 👶 PROBLEM SOLVING

From the school book

1. Find the value of each variable in the following part-to-whole bar models.

)	(
1	34.750	19.051

C.

34./50	19.051
78.	514
а	29.125

b.

•	121.725				
	10.714	У			

d.

4		m
	41.621	52.321

Solve the following equations, create a bar model to solve each of the following problems.

 $a_{1} = 3.4 = 2.17$

· · ·	

b. a + 19.5 = 30.8

(Cairo - El Nozha 23)



_	-
	4
	1

d. 8.76 = 5.35 + w



e. 2.15 + n = 5.24



f. 7.648 - d = 3.92



[Aswan 23]

[Aswan - Kom Ombo 23]

g. 2.53 + 4.38 + x = 12.76



h. 15.38 + c = 9.23 + 16.3



Solve each of the following equations using inverse operation strategy.

a.
$$76.85 + q = 90.96$$

b.
$$k + 2.40 = 3.04$$

(Giza - Aswah

c.
$$h = 15.32 = 7.83$$

d.
$$2.5 + 13.25 + m = 24.85$$

e.
$$1.46 + n = 2.461 + 3.015$$

f.
$$28.34 - 5.35 = z + 14.83$$

g.
$$2.563 - b = 1.03 + 0.568$$

4. Solve the following equations. Use a place-value chart, if needed.

a.
$$8.23 + p = 10.24$$

c.
$$2.45 + n = 5.24$$

g.
$$5.52 + 2.01 + m = 9.21$$

b.
$$t - 2.45 = 0.26$$

f.
$$[-12.40 = 3.01]$$

h.
$$2.30 + 3.10 = 1.50 + v$$

Story problems on solving equations

- 5. In each of the following story problems, write an equation match it, then solve.
 - a. The weight of Mariam is 35.235 kg and the weight of Luci is 42.012 kg. What is their weight together?





c. 🕮 Ola needed 10 meters of wood to build a garden bed. She found 3.5 m in her garage. How many more meters of wood does she need for the bed?



d. III Bassem is taking a bus from Cairo to Ras Muhammad National Park to visit the coral reefs. The total journey is 492.64 kilometers. After 396.48 km, the bus stops in El Tor to pick up more passengers. How far is El Tor from Ras Muhammad National Park?



e, 🕮 Bassem and his friend Jana were snorkeling in Ras Muhammad National Park on the coral reef. Bassem saw a hawksbill sea turtle that was 0.78 meter long. Jana saw a green turtle that was 0 58 m longer. How .ong was the green turtle?



f. A water tank was filled with 78.563 liter If 36.156 liters is poured from it, how much liter of water did remain?



g. Sameh stood on the balance carrying a bag of weight 10.953 kg, the balance reading was 93.215 kg. What is the weight of Sameh?

• REMEMBER



h. At the market, Bassem bought two melons for a total weight of 2.64 kilogram. If one melon weighed 1.36 kg, what was the weight of the other melon?



 In Jana's backpack, she has a water bottle that weighs 1.5 kilograms, books that weigh 2 451 kg and a snack.
 Her filled backpack weighs 4.535 kg.
 How much does her snack weigh?



j. Nagi s training for a race. Each day of the week he runs 3.5 kilometers. If he runs for 10 days, how far will he have run?



k. Mina car petrol tank contains 50 liters of petrol, he went to Alexandria, the car consumed 28.95 liter, then he wants to travel to Matrouh. The car will consume 43.5 liter from Alexandria to Matrouh.

How many more liters does Mina need to fill in the tank?



 Ezz ran three days last week. He ran 5.24 kilometers on Monday and 6.50 km on Wednesday. If he ran a total of 15 km for the week, how much did he run in the third day? What would the variable in the problem represent? Solve the problem.



6.	What	İS	the	story	?
----	------	----	-----	-------	---

- Write a story problem for each of the following equations, then solve it.
 - a. 5.25 + 3.8 = n
 - **b.** 7.85 3.685 = y
 - c. 🕮 x + 2.75 = 12.5
 - **d.** \square 124.6 72 25 = m

 - f. 56.125 d = 3.853

Choose the correct answer

- Deir Mawas 231 Ello The value of variable x in the equation: X + 4.5 = 8 is D. 5.5 A. 35 B. 4.5 C. 3.5 3. If 8.24 - y = 3.12, then y =If p + 3.562 = 5.562, then p = B. 11,36 A. 5.12 B. 2 C. 3 D. 14.12 D. 2.001 C. 12.15 8.368 5. In the opposite part 4. If m = 3.459 = 4.213, then m = 5 032 -to- whole bar model A. 0.754 B. 1.672 , the value of m = C. 0.632 D. 7.672
- 6. For the equation: 7325 -x = 4.127, which of the following part-to-whole bar model is suitable?

A. × 7.325 4.127

7.325 × 4.127 C. 4.127 7.325 x

A. 13.4

C. 10.456

D. x 4,127 3.198

B. 3.336

D. 2.832

- 7. By using the bar model: The value of mis
- A. 2.8
- B. 1.64

B.

C. 1.8

D. 0.36

[Cairo - Al Khalifa and Al Mokattam 23]

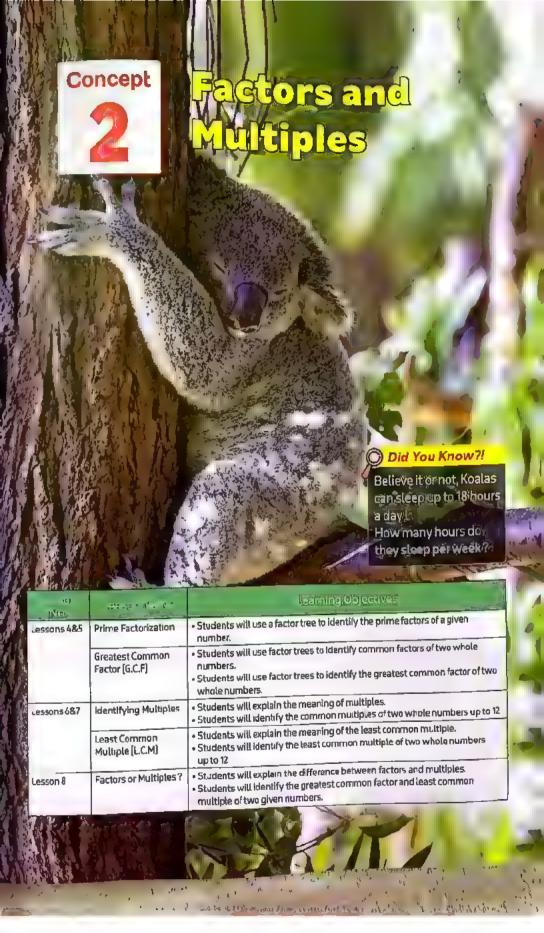
3.16 m 2.8

- 8. The weight of a golden ring is 3.258 gm and that of a golden bracelet is 12.721 gm, then theequation which represents this story is
 - A. 3.258 + x = 12.721

B. 3.258 + 12.721 = x

 ϵ . 12.721 - 3.258 = \times

- **D.** 12.721 + x = 3.258
- Nada weight was 93.738 kg. She dec ded to make a diet, her weight becomes 78.135 kg.
 - What weight does Nada lose?
 - A. 14.923 kg.
- B. 12.731 kg.
- C. 10.423 kg.
- O. 15.603 kg.
- 10. A truck was loaded with 6.112 tons of fruits and vegetables. If the weight of fruits is 2.865 tons, what is the weight of vegetables in tons?
 - A. 8.977
- B. 7.879
- C. 3.247
- D. 8.793
- 11. Yosra mixes 0.05 kg of fertilizer with 1.386 kg of soil, she fills a pot with the mixture and
- has 0.135 kg left over. How much mixture went into the pot?
 - A. 1.436 kg.
- **B**. 1.571 kg.
- C. 1.305 kg.
- D. 1.301 kg.







Greatest Common Factor (G.C.F.)



Identify the prime factors of a whole number (Prime factorization)



Remember

A Prime number is a whole number that has exactly two different factors, 1 and Itself. Examples for prime numbers. 2,3,5,7,11,13,17

A Composite number is a whole number that has more than two factors.

Examples for composite num: 4,6,9,12,25,30

How can you write a number as a product of prime factors?

Every composite number can be written as a product of prime factors.

This product is called the prime factorization of a number. You can use "prime factor tree" to find the prime factorization.



To write 24 as a product of prime factors (prime factorization):

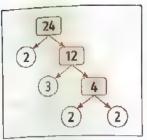
- Write 24 as a product of two factors.
- Write each composite factor as a product.
- Continue until all branches end in prime number
- Circle the prime factors and put a square around the composite factors.
- The prime factorization of 24 is a multiplication string of the circled prime factors.

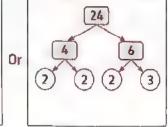


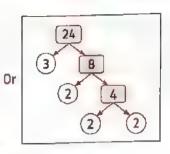
Notes for parents :

 Give your child a group of numbers and ask him/her to identify the prime numbers and the composite numbers









$$24 = 2 \times 2 \times 2 \times 3$$

Example 1

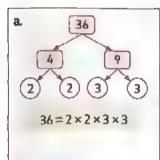
Find the prime factorization for each of the following numbers.

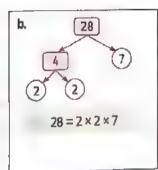
a. 36

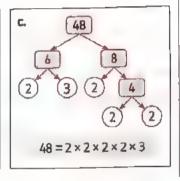
b. 28

c. 48

Solution [V]







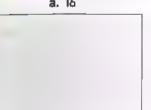
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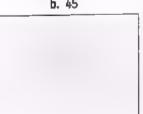
your understanding

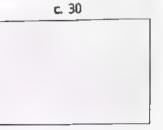
Find the prime factorization for each of the following numbers.

a. 16

b. 45







Help you child by starting his/her factor pairs tree with at least one prime number, so that only one
brench continues-this makes it visually easier to manage. Remind him / her to circle the prime numbers
as he / she gets. This will help him / her list all the prime factors and also write the prime factorization.

Product of prime factors

Given that 2, 2 and 3 are the prime factors of a number.

What is this number?

The number = The product of all the given prime factors

, then the number = $2 \times 2 \times 3 = 12$

What is its composite factors?

Composite factor = Product of 2 or more

factors from the prime factors

, then 4, 6 and 12 are the composite factors of 12



Notice -

The none prime factors of 12 are: 1,4,6 and 12

Notice

You can find all none prime factors of 12 using (factor rainbow or factor T-chart), then cancel the prime factors from them.



	12
1	12
2	6
*	4

Example 2

Find the product of the prime factorization listed, then list all other factors of the product.

- a. 2×2×7
- b. 2×3×5
- c. 2×2×2×3

Solution [V]



- a. Product = $2 \times 2 \times 7 = 28$
- b. Product = $2 \times 3 \times 5 = 30$
- c. Product = $2 \times 2 \times 2 \times 3 = 24$

- Other factors are: 1,4,14 and 28
- Other factors are: 1,6,10,15 and 30
- Other factors are:1,4,6,8,12 and 24

dreck your understanding

Find the number whose prime factorization is given, then find the other factors for each of the following.

- a. 2×3×3×3
- b. 2×5×5
- c. 3×3×7

Notes for parents:

Remind your child that not all odd numbers are prime numbers.

You studied this method in primary 4

Remember

A common factor of two numbers is a factor of each of these numbers. The greatest common factor (G.C.F)



How can you find the greatest common factor (G.C.F) for two numbers ?

How can you find the greatest common factor of 18 and 24 [G.C.F]?

You can find the greatest common factor in two ways:

First way using listing method:

Find the factors of each number

Determine the common factors of these numbers.

Get the greatest factor of the common factors.

18		2	4
1	18	1	24
2	9	2	12
3	6	3	8
		4	6

of two numbers is the greatest number that is a factor of both. • Factors of 18: [1], [2], [3], (6, 9, 18

• Factors of 24: 1 , 2 , 3 , 4 , 6 , 8 , 12 , 24

Common factors: 1, 2, 3, 6

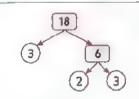
The greatest common factor [G.C.F]: 6

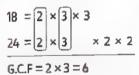
Second way using prime factorization:

Factorize each number to its prime factors.

Find the common prime factors.

Find the product of these common prime factors.





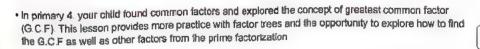
24

Note -

If there are no common prime factors, the G.C.Fis1 For Example:

① G.C.F of 3 and 17 is 1

② 6.C.F of 8 and 9 is 1



Example 3

Find the factors of 48 and 36, then find.

- a. The common factors.
- b. The greatest common factor [G.C.F]

Solution [7]



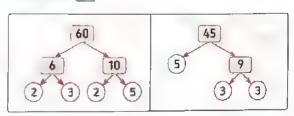
- Factors of 48 1 |, 2 , | 3 |, 4 , 6 |, 8 , 12 | , 16 , 24 , 48
- Factors of 36: [1 , 2 , 3 , 4 , 6 , 9 , 12 , 18 , 36
- a. The common factors are: 1, 2, 3, 4, 6 and 12
- b. 6.C.F = 12

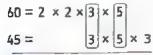


Example 4

Factorize 60 and 45 to their prime factors, then find the G.C.F

Solution [V]





 $G.C.F = 3 \times 5 = 15$





check your understanding

Find the G.C.F of 36 and 54

Notes for parents:

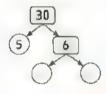
Your child may still prefer to make lists to find the common factors and the greatest common factor, but
understanding the prime factorization is important as your child moves into more complex factors.

- REMEMBER DUNDERSTAND CAPPLY & PROBLEM SOLVING
- From the school book

Prime factorization

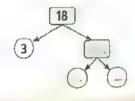
- 1. Complete with "Prime" or "Composite".
 - a. 2 is----
 - e. 5 is -
 - l. 13 is
- b. 4 is -
- f. 6 is ----
- j. 12 is ----
- c. 29 ls ----
- g. 7is-----
- k. 16 |s-
- d. 3 is ----
- h. 11 is -
- L 23 is ----

- 2. Factorize to prime factors.



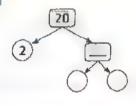
30 =

Ь. 🕮



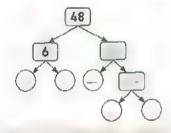
18 = 3 × --- × -

c. 🕮

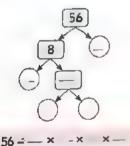


 $20 = 2 \times \dots \times$

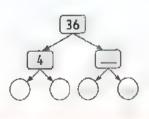
d.



48 = ___ x ___ x



f.



36=--×---×

3.	Factorize each of	the following numbers	to its prime factors.
V .	LOCATE ISE COM! OF	FILE LONGARIES LINES INC. of	EG 100 PT 1111

a. 8

- b. 15
- c. 21
- d. 32

- n 75
- f. 42
- g. 49

h. 72

1. 80

- 1. 90
- k. 99

L. 17

4. Find the product of the prime factorization listed, then list all other factors of the product.

a. 2×2×2=

Other factors are:

c, 2×3×3=____

Other factors are:

e. 🚨 2 × 3 × 7 =

Other factors are:

g. 2×2×3×3=----

Other factors are: -

b. 🕮 2× 2× 5 = _____

Other factors are: -

d. 2×5×5 = _____

Other factors are: —

f. @2×2×2×7= ——

h. 3×3×7=----

Other factors are: -

Other factors are:

5. Complete.

- a. ———— is the only even prime number.
- b. The prime number has two factors which are ————— and
- c. 1 is not a prime number because -----
- d. The 2-digit prime number which is less than 13 is
- e. The prime numbers between 60 and 70 are ————
- f. The prime factors of 14 are _____
- g. The prime factor of 19 is ---
- h. The prime factors of 60 without repetition are
- i. The number whose all prime factors are 2,3 and 5 is
- j. The greatest factor of the number 72 is
- k. The greatest prime factor of the number 28 is _____
- L. The smallest factor of the number 21 is -----
- m. The smallest prime factor of the number 42 is

- At the northern edge of the Gulf of Suez lies the Suez Canal. The Suez Canal extends 193
 kilometers and cuts thousands of miles from the shipping routes between Europe and Asia.
 - It takes 12 to 16 hours for a ship to go through the canal. Akram was curious. If a ship
 takes 12 hr. and travels 193 kilometers, can it go an equal distance each hour? To solve
 the problem, he needs to know if 12 is a factor of 193. He makes a factor tree starting
 with 1 and 193. Basem told him the factor tree would not help him answer his question.
 Is Basem correct or incorrect? Why?
 - 2. Is 193 prime or composite?
 - 3. Is 12 a factor of 193? How do you know?
 - 4. Is 1 prime or composite or neither? Why?



Greatest common factor [G.C.F]

7.	Find the	common	factors a	nd the 🤉	greatest	common	factor	(G.C.F)	of:
0									

a.	4 and 6		
	Factors of 4:		
	Factors of 6:		
	Common factors:	G,C.F:	
b.	10 and 30		
	Factors of 10:		
	Factors of 30:		
	Common factors:		
c .	40 and 45		
	Factors of 40:		
	Factors of 45:		
	Common factors:	G.C.F:	

a.	544	and	18

Factors of 54:

Factors of 18:

G.C.F: Common factors:

e. 48 and 60

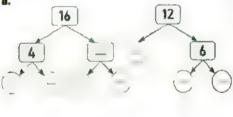
Factors of 48: -

Factors of 60: --

6.C.F: -Common factors: -

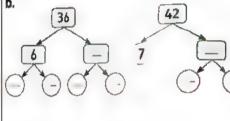
8. Find the prime factorization, then find the G.C.F





12 = -

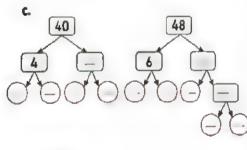
G.C.F = -



63

36 =

42 = -



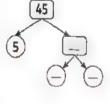
40 =

48 =

G.C.F =

d.

G.C.F = -



45 = -

G.C.F = -

)	actorize the following numbers to their prime factors, then find the G.C.F for them.				
а.					
b.	36 and 84	[Aswan – Kom Ombo 23]			
c.	42 and 28				
d.	. 39 and 78				
e.	35 and 28	(El Kalyoubla 23)			
1	nd the G.C.F of the given numbers. 8 and 12	[Cairo – El Sherouk 23]			
b.	. 12 and 18	[Cairo – Heliopolis 23]			
C.	40 and 50				
d	, 10 and 45				
e.	8 and 24	[El Menia – Deir Mawas 23]			
f.	45 and 81				
g.	. 33 and 11				

- 11. Two numbers, the prime factors of the first are 3 , 3 and 5 and the prime factors of the second are 2 , 2 , 3 and 5 , then :
 - The first number = ----
 - The second number = ----
 - Their G.C.F =

- Greatest common factors (G.C.F): Work independently to complete the problems.
 - 1. List the factors of 42
 - 2. Complete the factor tree for 42 and write out the prime factorization

42

2



- 4. What are the common factors of 42 and n?
- 5. What is the greatest common factor of 42 and n?



13. (1) a. Shadi and Taha went diving to the steamship. They each stopped at intervals of equal depths to check their gear. Shadi dove to the stern at 30 meters below the surface. What are all the options of intervals he could take? (Stopping every 1 m is not practical, nor is going the entire distance.)

- A. 2m,3m,5m
- B. 2m,3m,5m,6m
- C. 2m,3m,5m,6m,10m,15m
- D. 2m,3m,5m,6m,10m,12m

b. Taha dove to the hull at a depth of 15 meters. What are the options of intervals he could take? (Stopping every 1 m is not practical, nor is going the entire distance.)

A. 3 m ,5 m

B. 2m,3m,5m

C. 2m,3m,5m,6m

D. 2m,3m,5m,6m,10m

c. Challenge: If both divers stop at equivalent equal intervals, what is the greatest distance they can both dive before stopping?

A. 2 m

B. 3 m

C. 5 m

D. 10 m

a. Sylvia has 21 pencils and 14 erasers. She wants to put them in groups. What is the greatest number of groups that can be made so that each group has the same number of items?
How many pencils will be in each group? How many erasers will be in each group?

b. There are 40 girls and 32 boys who want to participate in lap on teams. f each team must have the same number of girls and the same number of boys, what is the greatest number of teams that can participate? How many girls will be in each team? How many boys will be in each team?



15. Find the common factors of 36,24 and 48

16. Find the G.C.F of 24, 40 and 56



Multiple Choice Questions

Choose the correct answer.

1	. The prime n	umbe	r has	= factors.	2. The smallest prime number is
•	-		C. 3		A. 0 B. 1
			(Aswar	- Kom ombo 23)	C. 2 D. 3
3.	. The smalles	t odd i	prime nu	mberis	4 is the only even prime number
	A. 1		B . 2		A. 0 B. 1 C. 2 D. 3
	C. 3		D. 9		(Calro - El Marg 2
7.	. The number	11 has		factors.	6. The prime number between 44 and 50 is
		. 2 fia – Ta	C. 3 la 23), [Giz	D. 4 ta - Awseem 23)	A. 45 B. 46 C. 47 D. 49
	2,5 and 7 are	orime	factors of		8. 3,2 and 7 are prime factors of
			C. 65		A. 14 B. 21 C. 42 D. 44
	The prime fa		of the nu	mber 18	10. The prime factors of the number 28 are
	A. 2,2and3		B. 2	,3 and 3	A. 2,2and5 B. 2,2and7
	_				C. 14 and 2 D. 7 and 4
	(El Menia – Deir	Mawas	s 23 , Cairo	El Sherouk 23]	[Cairo – El Marg 2
11.	Which of the number?	follow	/ing is a p	orime	12. Which of the following is a composite number?
	A. 1 B.	3	C. 9	D. 15	A. 1 B. 31 C. 33 D. 43
•	Which of the prime number		ring is NO)Ta	14. All the following numbers are composite except
	A. 2 B.	5	C . 7	D. 9	A. 66 B. 67 C. 68 D. 69

15. Which statement is true?

- A. 1 is a factor of only odd numbers.
- C. 1 is a factor of every number.
- B. 1 is not a factor of any number.
- D. 1 is a factor of only 0.

16.	 A prime number has only 2 factors: 1 and two factors. A prime number has only 1 as a factor and C. A prime number has only 2 factors. A control of the prime number has only 2 factors. A control of the prime number has only 2 factors. 	nd a composite number has two factors.
17.	The G.C.F of 7 and 56 is A. 1	18. The G.C.F of 10 and 15 is A. 10 B. 15 C. 5 [Monofia - Tala 23]
19.	G.C.F of numbers 5 and 7 is	20. The G.C.F of 20 and 30 is A. 1 B. 4 C. 5 D. 10 [Cairo - El Nouzha, El Beheira 23]
21.	The common factor of all numbers is ——————————————————————————————————	22. 1 and 7 are the common factors of —— A. 2 and 7 B. 2 and 14 C. 7 and 12 D. 7 and 14

23. Which pair of numbers has the same greatest common factor as 42 and 12?

A. 9 and 6

B. 8 and 24

C. 16 and 60

D. 18 and 30

24. Two groups took public transportation in Sharm El-Sheikh. Each ticket costs the same amount of money. One group spends 16 L.E. and the other group spends 12 L.E. At most, how much does the greatest possible cost of each ticket ? [Hint · Use the G.C.F].

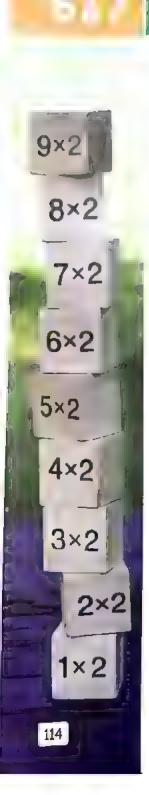
A ZLE

B. 4 L.E.

C. 6 L.E.

D. 8 L.E.

[Monoffa - Tala 23]



- Identifying Multiples
- Luast Common Multiple (L.C.M)

Learn 1 Identifying multiples

- In primary 4, you have learned what is a multiple and how to find multiples of a whole number and common multiples of two numbers.
- In this lesson, you will review what you have learned before, and expand your knowledge of common multiples to learn how to identify the least common multiple (L.C.M).

Remember what is a multiple?

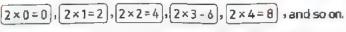
A multiple is the product of a given number and another whole number.

- You can find multiples of any number using many ways as :
 - Multiplying by the whole numbers.
 - Skip-counting on the number line.

For Example.

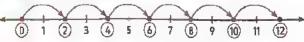
To find the multiples of 2, you can use any of these ways:





Then the products 0, 2, 4, 6, 8, ... are called the multiples of 2

Using skip-counting by 2s on the number line.



Then the multiples of 2 are 0, 2, 4, 6, 8, 10, 12 and so on.

Remarks

- Zero is a multiple for any number.
- The multiple of any number not equal to 0 is divisible by this number.

For Example:

$$2 \times 5 = 10$$
 \rightarrow 10 is a multiple of both 2 and 5

• 10 is divisible by 2

• 10 is divisible by 5

Notes for parents:

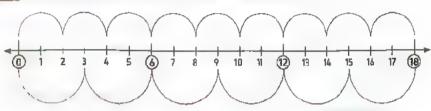
 Skip counting on the number chart helps your child notice the patterns to help him/her find the multiples more quickly.

Remember common multiples:

 Common multiples are multiples of two or more numbers. i.e. They are multiples that the numbers have in common.

Finding common multiples using the number line:

Example: Use a number line to find common multiples of 2 and 3.



The common multiples of 2 and 3 are 0 . 6 , 12 , 18 ,... and so on.

Remark

Zero is a common multiple for any numbers.

Example 1

Find the multiples of each of the numbers 4 and 6 up to 50, then find the common multiples between them.

Solution 💎



- -The multiples of 4 are: 0 , 4 , 8 , 12 , 16 , 20 , 24 , 28 , 32 , 36 , 40 , 44 and 48
- -The multiples of 6 are: 0 , 6 , 12 , 18 , 24 , 30 , 36 , 42 and 48
- -The common multiples of 4 and 6 are: 0, 12, 24, 36, and 48

Check your understanding

Find the multiples of each of 7 and 3 up to 50, then find the common multiples between them.

Solution [V]



The multiples of 7 are.

The multiples of 3 are: _

The common multiples are: -

Listing multiples help your child find common multiples.

Learn 2 Least common multiple (L.C.M)

Least Common Multiple (L.C.M)

The least common multiple (L.C.M) is the smallest multiple (other than 0) that two or more numbers have in common.

To find the LCM of two numbers or more, you can use one of the following two methods:



of each number.

Find the common multiples of these numbers.

Find the smallest multiple (other than zero) of them. Then it will be the L.C.M

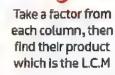
For Example

To find L.C.M for 6 and 9:

- ① Multiples of 6 are : ① , 6 , 12 , 18 , 24 , 30 , ⑥, 42 , 48 , ⑥ ,...
 - Multiples of 9 are : ① , 9 , ⑧ , 27 , ③ , 45 , ⑤ ,...
- Ocommon multiples of 6 and 9 (other than zero) are 18, 36, 54,...
- EL.C.M of 6 and 9 is 18

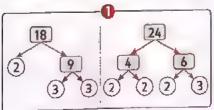
ILCM by offine laction ration

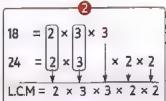
Find all the prime factors of each of the given numbers. Array prime factorization of each number such that the similar factors lie on the same column.



For Example:

To find L.C.M for 18 and 24:







Notes for parents:

Ask your child what is the meaning of the least common multiple.

Example 2

Find the least common multiple [L.C.M] for each of the following.

a. 8 and 6

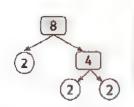
b. 12 and 16

c. 4,12 and 8

Solution 🕅

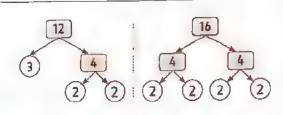




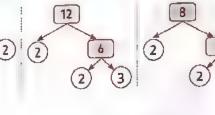




b. 12 = $2 \times 2 \times 3$ 16 = $2 \times 2 \times 2 \times 3 \times 2 \times 3$



c. 4 = $\begin{bmatrix} 2 \\ 2 \end{bmatrix} \times \begin{bmatrix} 2 \\ 2 \end{bmatrix} \times 3$ 8 = $\begin{bmatrix} 2 \\ 2 \end{bmatrix} \times \begin{bmatrix} 2 \\ 2 \end{bmatrix} \times 2$



Notice -

The L.C.M for two or more prime numbers is the product of these numbers.

For Example:

- L.C.M for 5 and 7 is 5 × 7 = 35
- L.C.M for 2, 3 and 5 is $2 \times 3 \times 5 = 30$



Let your child notice that prime factorization is the simplest way to find L.C.M of three numbers.



Your understanding

1. Complete.

- a. 6 and 5
 - Multiples of 6 are:
 - Multiples of 5 are.
 - ·LCM=

- b. 10 and 12
 - Multiples of 10 are:
 - Multiples of 12 are :
 - · LCM =

2. Using prime factorization, find LC.M for each of the following.

- a. 16 and 24
- b. 9 and 12 -

HelpfukHints

- 1. The multiples of 2 are the numbers whose ones digit is 0,2,4,6 or 8
- 2. The multiples of 5 are the numbers whose ones digit is 0 or 5
- 3. The multiples of 10 are the numbers whose ones digit is 0
- Zero is a multiple of any number.
- 5. Any number is a multiple of itself.
- The product of two whole numbers (or more) is a multiple of each of these numbers.

For Example: 35 is the product of 5 and 7 $(5 \times 7 = 35)$,

so 35 is a multiple of 5 and also 35 is a multiple of 7

The common multiples of two prime numbers are multiples of their product.

For Example . • All common multiples of 2 and 3 are multiples of 6

All common multiples of 3 and 5 are multiples of 15

NoteS for parents:

Direct your child to solve "check your understanding" problems. Review his/her answer.

- REMEMBER
- D . NOERSTAND
- CAPTUY
- A PROBLEM SOLVING
- ₩ From the school book

Multiples and common multiples

- 1. Complete the following.
 - a. List the first five multiples of 3 -
 - b. List the first four multiples of 5 —
 - c. 🔛 List the first five multiples of 6
 - d. III List the first six multiples of 7 ~
 - e. List the first five multiples of 9
 - f. Dist eight multiples of 10
 - g. List the multiples of 8 up to 60 -
 - h. List the multiples of 4 which lie between 15 and 40
 - i. All the multiples of 5 between 14 and 44 are
 - j. All the multiples of 2 that are less than 10 are
- 2. Complete.
 - a. 28 = 7 x ——— hence 28 is a multiple of and is also a multiple of
 - b. 42 = 6 x —— hence 42 is a multiple of and is also a multiple of
 - c. 60 = 10 × ——— hence 60 is a multiple of —— and is also a multiple of ————
 - d. The number 12 is a multiple of 3 because : ------= × -----
 - e. The number 21 is a multiple of 7 because:
 - f. The number _____ is a multiple of 5 because: $40 = 5 \times$
 - g. The number _____ is a multiple of 10 because : 150 = × 15
- 3. a. Find the multiples of each of the numbers 2 and 3 up to 20, then find the common multiples between them.

The multiples of 2 are:-

The multiples of 3 are:

The common multiples are:



b. Find the multiples of each of the	e numbers 5 and 4 (up to 30, then	find the commo
multiples between them.			
The multiples of 5 are:			

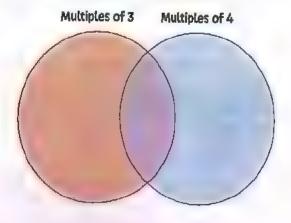
4. Answer the following.

The multiples of 4 are:

• List the first five multiples of 5 –

The common multiples are : —

- List the first ten multiples of 2
- What common multiples of 2 and 5 did you list?
- 5. Answer the following.
 - · List the first five multiples of 8
 - List the first six multiples of 4
 - List the first five multiples of 6
 - What common multiples of 8, 4 and 6 did you list?
- 6. Answer the following.
 - List the first twelve multiples of 3
 - List the first twelve multiples of 4.
 - What common multiples of 3 and 4 did you list? –
 - Use this information to fill in the Venn Diagram for the first 12 multiples of 3 and 4,
 placing the common multiples in the shared center.



7. a. Find a common mul	tiple of 4 and 8	
b. Find a common mu	tiple of 5 and 4	
c. Find two common n	nultiples of 4 and 6	
d. Find two common r	nultiples of 3 and 9	
8. Write the common mu	tiples of.	
a. 3 and 5 which are le	ss than 50	
b. 2 and 3 which are le	ss than 30 -	
c. 2 and 5 which are be	etween 20 and 75	
9. Complete.		
a. The common factor	of all the whole numbers is	· —
b. The common multi	ple of all the whole number	sis —
c. If the common fact	or of two numbers s 12 , the	n these two numbers
may be and		
d If the common mult	tiple of two numbers is 28 ,	then these two numbers
may beand		
	numbers that are NOT com	mon multiples of 5 and 7.
A. 14	B. 21	C . 35
D. 55	E. 70	F. 105
b. 🖾 Select the three	numbers for which 24 and 3	32 are common multiples.
A. 2	B. 3	C. 4
D. 6	E. 7	E. 8

_	 Adel is buying cartons of eggs and bottles of juice at the supermarket to make
66	breakfast for friends. Each carton contains 12 eggs. Complete the chart for Adel.

Cartons	1	2	3	4	5	6
Eggs	12					

The juice comes in packs of 9. Complete the chart for Adel

Packs	1	2	3	4	5	6	
Juice	9						

- If Adel is buying enough eggs and juice for 36 people, how many cartons of eggs and packs of juice will be need to buy for each guest to have 1 egg and 1 juice?
- Omar wants to visit Ras Abu Galum. During the week, a bus leaves for Ras Abu Galum
 at 3 a.m. Additional buses leave every 3 hours. The last bus leaves at 12 p.m. What
 times can Omar catch the bus?



• On the weekend, the first bus leaves for Ras Abu Galum at 6 a.m. Additional buses leave every 2 hours until 12 p.m. What times can Omar catch the weekend bus?



- What times can Omar always catch a bus, whether it is a weekday or the weekend?
- 13. (1) a. Doha and her little brother are laying out train tracks. Each train track is 12 centimeters long. How long are the first 5 pieces of track laid end to end?
 - b. How many pieces of track would Doha and her brother need to make the same distance from the previous problem if the track pieces were 4 centimeters long?

Least common multiple (L.C.M)

14. a. 🕮 To find the L.C.M of 6 and 9:

- Multiples of 6:
- Multiples of 9:-
- Common multiples of 6 and 9 (other than 0):
- (L.C.M) of 6 and 9 is:-

Ь.	To find the L.C.M of 10 and 5:
	Multiples of 10:
	• Multiples of 5:
	Common multiples of 10 and 5 (other than 0):
	- (L.C.M) of 10 and 5 is :
C.	To find the L.C.M of 7 and 14:
	Multiples of 7:
	Multiples of 14:
	Common multiples of 7 and 14 (other than 0):
	• (L.C.M) of 7 and 14 s:
d.	☐ To find the L.C.M of 5 and 11:
	Multiples of 5:
	• Multiples of 11 : —————————————————————————————————
	Common multiples of 5 and 11 (other than 0):
	• [L.C.M] of 5 and 11 is :
e.	To find the L.C.M of 3 and 8:
	• Multiples of 3:
	• Multiples of 8 :
	• Common multiples of 3 and 8 (other than 0):
	• (L.C.M) of 3 and 8 is :
f.	To find the L.C.M of 6, 10 and 15:
	• Multiples of 6:
	Multiples of 10:

15. Find the least common multiple.

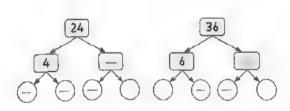
• Multiples of 15: -

a. 24 and 36

• (L.C.M) of 6, 10 and 15 is: -

Common multiples of 6, 10 and 15 (other than 0):

L.C.M = _____



Lessons 6	47 SIDDING	@ N = 7 = Bh2	WALLS BELLEVILLE OF THE PARTY O	CACAMA	
b. 15 ar	nd 18		(19		18
15 =				-	*
18 =					
L.C.N	1=-				
c. 32 ar	nd 48		32	Ž]	48
32=					
48 =	:				
L.C.N	4 =				
d. 6,9	and 8		6	9	8
6=					
9 =					
8 =	-	_			
Ł.C.ħ	1=				
e. 12,9	7 and 18	-	[12]	9	18
12 =	_				10
9 =					
18 =					
L.C.M	1=				
5. For eacl	h group of the	following nu	mbers, use the p	rime factorization	of each number
find the					
a. 3 and	15	b. 6	and 14	c. 1	6 and 22

- **d.** 8 and 12

[El Beheira , Cairo - El Sherouk 23]

e. 10 and 12

[Et Katyoubla - Monshaet Et Qunater2]

- (Cairo Al Khalifa and Al Mokattam 2)

f. 18 and 30

17. 🗈 Use the given vocabulary to complete the fol	lowing.
--	---------

[prime - factor - the number one - composite number - product - multiples]

- a. A is a number with more than one set of factor pairs.
- b. A Is a number multiplied by another number to find a product.
- c. Skip counting is a way to find ____ of a number.
- d. _____ is a factor of all numbers.
- e. A ____ number's only factor pair is one and itself.
- f. A _____ is the answer to a multiplication problem.

Package	1			
Kofta	3			<u> </u>
Package	1			
Aish Baladi	12			

19. A Hend and Jana are biking around a small take. Hend makes a complete tap around the lake in 6 minutes. It takes her younger sister, Jana, 8 minutes to finish one tap. If Hend and Jana continue to bike around the take at the same rate, how many minutes will it take for them to come together at the starting point again?

Lap	1			
Hend	6		,	 L
Lap	1			
Jana	8			

Multiple Choice Questions

Choose the correct answer.

1.	10 is a multipl	le of	2.	, is a multiple of 5.				
C	A. 3	B. 4	•	A.	6	B.	9	
	C. 5	D. 6		C,	37	D.	20	
		[Alexandria - First Montaza 23]		_				[Aswan]
3.	Which of the fo	pliowing is a multiple of 9?	4.	W	alch is NO	T a multiple o	f6?	
	A. 3	B. 45		A	0	В.	30	
	C. 56	D. 89		C.	20	D.	42	
5.	Which of the of 10?	following is NOT a multiple	6.	W	ich is a co	mmon multipl	e of	and8?
	A. 10	B. 20		A.	20	B.	40	
	C. 35	D. 50		C.	35	D.	45	
7.	Which is NOT 9 and 6?	a common multiple of	8. _©		e multiple	e of any numb	er	
	A. 18	B . 54		A.	0	B.	1	
	C. 36	D. 42		C,	2	D.	3	
								(Ismailia)
9.		multiples of 6 and 8 are the multiples of which number?	10 .			6 and 10 is	-	_
		8. 12			60		30	
	A. 10 C. 20	D. 24		C,		.a - Awseem 23	45 Mon	ofia – Tala I
11.	The L.C.M of 5	5 and 10 is	12.	Wi	nat is the	L.C.M of 8 and	18 ?	
0	A. 5	B . 10	Ø	A.	8	В.	18	
	C. 15	D, 20		C.	24	D.	72	
		[Aswan – Kom Ombo 23]						
13.	The L.C.M of 8	3,2 and 6 is —	14.	Th	e LC.M of	5 and 3 is		
9	A. 48	B. 45		A.	20	В.	25	
	C. 80	D. 24		C.	35		15	
						Mone	fia -	Ashmoon



Factors or Multiples ?

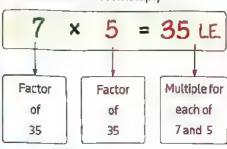
Learn 1 Relation between factors and multiples

Father, mother and three sons take the bus whose ticket is

7 L.E. perone.

What is the total cost of the family?

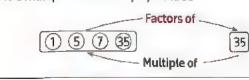
To find the total cost multiply 7 × 5





Remarks

- The factors of 35 are 1, 5, 7 and 35
- 35 is a multiple of each of 1, 5, 7 and 35





- Factor

- One is a factor of all numbers.
- Each number except zero has a finite number of factors.
- Any number is divisible by each of its factors.
- Factor of a number is smaller than or equal to this number.

Multiple

- Zero is a multiple of all numbers.
- Each number except zero has an infinite number of multiples.
- Multiple is the product of two factors or more.
- Non-zero multiple of a number is greater than or equal to this number.

Notes for parents:

Ask your child to explain the difference between a factor and a multiple.

Relation between G.C.Fand L.C.M. L.C.M G.C.F Least common multiple Greatest common factor Dea.s with multiples Deals with factors Obtained by finding the smallest Obtained by finding the greatest multiple among the common factor among the common factors multiples of the numbers of the numbers Product of the G.C.F x L.C.M = given two numbers of two numbers of two numbers Example 1 Find G.C.F and L.C.M for 9 and 24 Notice Solution [7] $9 = 3 \times 3$ 24 = 3 x 2 x 2 x 2 i.e. G.C F × L.C.M Choose one factor from each two common G.C.F= 3 = Product of the two factors L.C.M= $\frac{1}{3} \times \frac{1}{3} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ Choose one factor from each column numbers G.C.F = 3, $L.C.M = 3 \times 3 \times 2 \times 2 \times 2 = 72$ weheck your understanding Find G.C.F and L.C.M for each of the following. b. 14 and 21 a. 6 and 16

Notes for parents:

Ask your child to explain the difference between G.C.F and L.C.M

Learn 2 G.C.F or L.C.M ... ?

To solve some story problems, you need to decide whether you have to find the G.C.F or L.C.M.



What kinds of story problems might involve finding G.C.F?

These problems usually involve dividing, distributing equally, cutting into pieces or breaking something into groups.

What kinds of story problems might involve finding L.C.M?

These problems usually involve something repeated, multiple items, or when two things occur at the same time.



Example 2

The dimensions of a room are 12 and 8 meters. A contractor wants to tite the room using the least number of squared tiles. What should the tile dimension be?

Solution 🐨

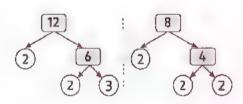


You will divide the room area into some squares, the least number of tiles is asked which means the dimensions of the tile must be the greatest possible that means you will find G.C.F of 12 and 8

$$12 = 2 \times 2 \times 3$$

$$8 = 2 \times 2 \times 2 \times 2$$

$$6.C.F = 2 \times 2 = 4$$



, then the tile has to be a square of side length 4 meters.

Example 3 -

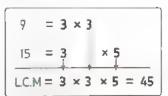
Two neon signs are turned on at the same time. Both signs blink as they are turned on. One sign blinks every 9 seconds. The other sign blinks every 15 seconds. In how many seconds will they blink together again?

Ask your child when he/she decides to find G.C.F and L.C.M through the story problems.

Solution [8]



To find when the two signs blink together again at the same time, you have to find LC.M of 9 and 15.



, then the two signs will blink together again in 45 seconds.



whereast your understanding

- Farmer John and Farmer Jane are planning out their fruit orchard Farmer John is planting the orange trees, and Farmer Jane is planting the cherry trees. Farmer John has 30 orange trees to plant, and Farmer Jane has 24 cherry trees to plant. They want to plant the trees so that each row has the same number of trees. What is the largest number of trees each row can have?
- Two types of cubic stone blocks, one is of edge length 2 meters and the other is of edge length 3 meters. It is wanted to make a column from each type such that the two columns are of the same height using the least number of stones. What is the height of each column?

Notes for parents:

· Ask your child to read each story problem and decide whether he/she have to find the G.C.F or the L.C.M to solve the problem.

REMEMBER	UNDERSTAN
A U PLATITUDE	- Ollucing had

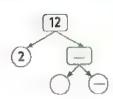
OME

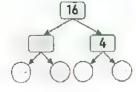
🖧 PROBLEM SOLVING

From the school book

Find the G.C.F and L.C.M for each of the following numbers.

a. 12 and 16





b. 18 and 20

G.C.F = -

18



c. 24 and 36

24



Find the G.C.F and L.C.M for each of the following.

- G.C.F = -----(Giza 23)
- L.C.M = ---(El Menia - Deir Mawas 23)

- b. # 9 and 5
- G.C.F = ----

L.C.M =

- c. 20 and 30
- G.C.F = --

L.C.M = ----

- d. 28 and 42
- G.C.F = -
 - [Aswan Kom Ombo 23] L.C.M ——

- e. 🕮 11 and 2
- 6.C.F = --G.C.F = ---

L.C.M = ----L.C.M = -----

- f. 4 8 and 4 Q. (2) 9 and 12
- G.C.F = ----- [Giza Awseem 23]
- L.C.M = -

- h. 18,30 and 45
- G.C.F = ----

L.C.M =

- Two numbers , the prime factors of the first are 3, 3 and 5 and the prime factors of the second are 2, 2, 3 and 5, then: b. The second number ≃ a. The first number = d. Their L.C.M = E. Their G.C.F.= 4. If12 = 2×2×2×3 -30 = 2**x3x5** Then GC.F = (El Monofia - Shiben El Kom 23) LCM = Two numbers, one of them is 12, their GCF is 2 and their LCM is 60. Find the other number. 6. 📖 Omnia has two strips of cloth. One is 35 centimeters wide, and the other is 75 cm. wide. She wants to cut both pieces into strips of equal width that are as wide as possible. How wide should she cut the strips? Do you have to find the G.C.F or the L.C.M? What is the answer? Omar exercises every 12 days. Rana exercises every 8 days. Both friends exercised together today. How many days will it be until they exercise together again? Do you have to find the G.C.For the L.C.M.? What is the answer?
- 8. Menna is giving her friends pencils and special erasers. The store sells pencils in boxes of 8 and erasers in boxes of 10. If Menna wants the same number of each, what is the minimum number of pencils that she will have to buy? Do you have to find the G.C.F or the LCM? What is the answer?

9.	Nour is making snack bags for an upcoming trip. He has 6 oranges and 12 pieces of dried fruit. He wants the snack bags to be identical without any food left over. What is the greatest number of snack bags Nour can make? Do you have to find the G.C.For the L.C.M? What is the answer?
10.	① Malak baked 30 servings of cakes and 48 servings of baktava for her family. She wants to divide the desserts into containers so that each person receives the same number of servings. How many containers will she need? Do you have to find the G.C.F or the L.C.M? What is the answer?
11. 0	(1) Ola sells baskets of figs that each hold 9. She also sells bags of pomegranates that each hold 7. If she sells the same number of each, what is the smallest quantity of each type of fruit that she sold? Do you have to find the G.C.F or the L.C.M? What is the answer?
12 .	Marwa waters one of her plants every 4 days and another plant every 6 days. If she waters both plants today, when is the next time both plants will be watered on the same day?
13.	Sara has 16 red flowers and 24 yellow flowers. She wants to make bouquets with the same number of each color flower in each bouquet. What is the greatest number of bouquets she can make?
(金) 14.4	Challenge If the LC.M of two numbers is 36 and their G.C.F is 3 what could be these two numbers?

Unit Two Assessment



1. Choose the correct answer.

- 1. If k = 3.551 = 1.268, then k =
 - A. 2.283
- B. 4,819
- C. 3.514
- D. 5.103
- 2. Which of the following equations represent the mathematic operation

(6 plus a number equal 11) ?

(Cairo - El Salam 23

- A. 8-11=6
- C 6+11=B

- B. B-6=11
- D. 6 + B = 11
- 3. Prime factorization of 12 is ———
 - A. 1,2,3,4,6,12

B. 2×2×2×3

C. 2×2×3

- D. 2×3×4
- Adel and Hany have 36 L.E. together, Adel only has 20 L.E., then the variable X in the equation X + 20 = 36 represents
 - A. Adel's money.
- B. Hany's and Adel's money.
- C. Hany's money.
- D. the difference between Adel's and Hany's money.
- 5. Which pair of numbers has the same greatest common factor as 24 and 18?
 - A. 12 and 24
- B. 30 and 12
- C. 36 and 18
- D. 42 and 35

- The number 13 has ——— factors.
 - A. 3
- **B**. 5
- C. 2
- D. 1
- The least common multiple (L.C.M) for 12 and 6 is ——
- (El Beheira 23)

- A. 12
- **B**. 10
- C. 6
- D. 40

2. Complete the following.

- Ramy carries 7.136 kg of apples and oranges where oranges weight is 3.816 kg, then the
 equation representing the mass of apples only is ————
- 2. The number whose prime factors are 2, 2, 3, 5 is
- 3. If 4.563 + 2.45 = k + 3.265, then k = ----
- 4. G.C.F of any two different prime numbers is -----
- 5. The prime numbers between 10 and 20 are _____
- 6. The multiples of 4 which lie between 21 and 35 are

2. The v A. 1.	ralue of the variable x	in the equation x = 7.5	3.5 = 4 is C. 5.6	[Et Menta – Deir Mawas 23] D. 5.1
3, The s	mallest prime numt B.	per in the following	g is	(El Menia 23) D. 0
4. The c	composite number r	n the following nur 13	mbers is C. 21	(El Menia – Deir Mawas 23) D. 5
5. The r A. 5		one of the multip	les of the digit 5. C. 5001	(Cairo – El Sherok 23) D. 100
6. The p	orime factorization o	f6is - . 2×3	C. 5+1	[Cairo - El Zouzha 23] D. 1,6
A. 2	h of the following is 5 + X = 8 amy saved L.E. 18 pe		B. 2.5+1.4=1. D. x+2.7-3.8	
	the following quest			(ismailia 23)

among the students, how many students will get candy and soda?

2.5

How many candy bars and sodas will each student get ?

3. Find the value of x in the opposite area model. 1.34

4. A mother has 1.352 kg. of flour. She wants to make a cake for her children. If the cake needs 2 kg. of flour, how many more flour does she need?

THEME ONE

Number Sense and Operations



Multiplication with Whole Numbers

► Concept 1 : Multiplying by a 2-Digit Number

Did You Know?!

A reading distribution is active a self-A-celf ease 4 times each four divining the filest week of life they many times close a reain a day during this have?



Concept Multiplying by a 2-Digit Number

	NO.	taxson (damt-	Learning Objectives	*
١		Using the Area Model to Multiply	Students will multiply using the area model.	18.
	Lessons 1 & 2	The Distributive Property of Multipucation	 Students will explain the relationship between the area model of multiplication and the Distributive Property of Multiplication. 	
	Multiplying by a 2-Digit Number Using the Algorithm Multiplying Multi- Digit Numbers		Students will multiply using the standard algorithm.	-
			 Students will multiply 4-digit numbers by 2-digit numbers using the standard algorithm. Students will use estimation to check the reasonableness of their answer. 	
	Lesson 5	Multiplication Problems in the Real World	Students will solve multistep story problems involving multiplication.	



- Using the Area Model to Multiply
- The Distributive Property of Multiplication



Remember Multiplying by powers of 10

Maged saves 5 pounds per day.

Calculate the total savings after 100 days.

 You can use a basic fact and a pattern to find the product.

	TH	Н	Ţ	0
7				5
			5	0
		5	0	0
	5 ,	0	0	0
'				

 $5 \times 1 = 5$

 $5 \times 10 = 50$

 $5 \times 100 = 500$

[Put 1 zero at the end] (Put 2 zeroes at the end)

5 x 1,000 = 5,000 (Put 3 zeroes at the end)

Notice the pattern of zeroes

So, Maged saved 500 pounds in 100 days.

Example 1

Fill in the blanks below.

a. 4 × 100 =

b. $20 \times 100 = 1$

c. $10,000 \times 7 =$

d. 8 × 100,000 =

× 13 = 1,300 f. 1,000 ×

Solution [7]



b. $(20) \times 100 = 2,000$ | c. $10,000 \times (7) = 70,000$

d, (8)×100,000 = 800,000 e, 100

dheek your understanding

Complete each of the following.

a. 100 × 6 = [

b. 80 × 10 =

 $c.70 \times 10.000 =$

 $\times 100 = 2,000 | e. 1,000 \times$

= 9,000 f. 150 =

×15

Notes for parents :

· Explain that when multiplying by a power of ten the product has the same number of zeroes unless the basic fact has a zero.

Learn 1 Using the area model to multiply

A toys factory produces 193 boxes of toys per day.

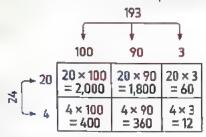
There are 24 toys in each box.

Calculate the total number of toys per day.

Multiply: 193 × 24

You can use the area model as follows:

Expand: 193 = 100 + 90 + 3 and Expand: 24 = 20 + 4



 $193 \times 24 = 2.000 + 1.800 + 60 + 400 + 360 + 12 = 4.632$

So, the factory produces 4.632 toys per day.



Add the products:

	2 00 0
	2,000
+	
+	60
+	400
+	360
+	12
	4,632

Notice that

When adding the products, order of products does not affect the total answer.

Example 2

Use the area model to solve the following.

a. 409 x 68

b. 17×54

Solution [7



a.	• 409 - 400 + 9	• 68 = 60 + 8
	400	9

60	60 × 400 = 24,000	60 × 9 540
8	8 × 400 = 3,200	8 × 9 = 72

 $409 \times 68 = 24,000 + 540 + 3,200 + 72 = 27,812$ | $17 \times 54 = 500 + 350 + 40 + 28 = 918$

b. $\cdot 17 = 10 + 7$		• 54 = 50 + 4
10		7
50	50 × 10 - 500	50 × 7 – 350
4	4 × 10 = 40	4 × 7 = 28

check your understanding

Solve each of the following problems using an area model.

a. 618 × 43

b. 82 × 306

While there are many ways to decompose a number numbers should be decomposed using place value when using an area model for multiplication. For example, it is possible to decompose 23 in many different. ways, including 17 and 6, 10 and 13, or 14 and 9. However, 23 should be decomposed into 20 and 3 when using an area model for multiplication.

Learn 2 The Distributive Property of Multiplication

The Distributive Property states that multiplying a sum by a number is the same as multiplying each addend by that number and adding the products.

For Example

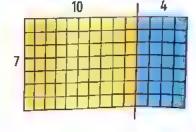
To find 7 × 14 using the Distributive Property.

Break apart 14 into [10 + 4].

$$7 \times (10 + 4) = (7 \times 1) + (7 \times 4)$$

= +28 = 98

· By using the area model.



	10	4	7 0
			+ 28
7	$7 \times 10 = 70$	7 × 4 = 28	98

Notice that

14 can be broken apart in many ways such as: [7 + 7], [6 + 8], [5 + 9]....



Example 3

Use the Distributive Property to find the following products. Try to find another way to break apart.

Represent the problems using an area model.

 $7 \times 14 = 98$

Solution 🕎

- a. Break apart 46 into 40 + 6
 - Break apart 27 into 20 + 7

	20	7
40	40 × 20 = 800	40 × 7 = 280
6	6 × 20 = 120	6 × 7 = 42

$$[40+6] \times [20+7] = [40 \times 20] + [40 \times 7] + [6 \times 20] + [6 \times 7]$$

$$= 800 + 280 + 120 + 42$$

$$= 1,242$$

- b. Break apart 18 into 10 + 8
 - Break apart 304 into 300 + 4

	300	4
10	10 × 300 = 3,000	10 × 4 = 40
8	8 × 300 = 2,400	8 × 4 = 32

$$[10+8] \times [300+4] = [10 \times 300] + [10 \times 4] + [8 \times 300] + [8 \times 4]$$

$$= 3,000 + 40 + 2,400 + 32$$

$$= 5,472$$

Notes for parents:

Your child may incorrectly decompose that factors according to their digits rather than according to the
values of their digits. He/She may decompose 14 as 1 and 4 rather than 10 end 4.

Example 4

Use the following area models to write the distribution equations.

	20	7
9	180	63

70 2,80	0 560
	560_
3 120	24

	100	2
50	5,000	100
3	300	6

d.

	600	30	1
30	18.000	900	30
4	2,400	120	4

Solution [V]



a.
$$9 \times 27 = [9 \times 20] + [9 \times 7] = 180 + 63 = 243$$

b.
$$73 \times 48 = [70 \times 40] + [70 \times 8] + [3 \times 40] + [3 \times 8]$$

c.
$$53 \times 102 = (50 \times 100) + (50 \times 2) + (3 \times 100) + (3 \times 2)$$

d.
$$34 \times 631 = [30 \times 600] + [30 \times 30] + [30 \times 1] + [4 \times 600] + [4 \times 30] + [4 \times 1]$$



Example 5 _____

Use the Distributive Property to solve 23 × 154.

Solution [V]



$$23 \times 154 = (20 + 3) \times (100 + 50 + 4)$$

$$= (20 \times 100) + (20 \times 50) + (20 \times 4) + (3 \times 100) + (3 \times 50) + (3 \times 4)$$

$$= 2,000 + 1,000 + 80 + 300 + 150 + 12$$

$$= 3,542$$

Your child get confused with how many zeroes to place at the end of a product. For example, your child may write $7 \times 2,000 = 1,400$ instead of $7 \times 2,000 = 14,000$. Your child may also write $5 \times 200 = 100$ instead of 5 × 200 = 1,000

Example 6

Find more ways to find the product of 32 × 48 using the Distributive Property and area model.

Solution 💎

Know that : All the ways show the same product.

- First way: Break apart 32 into 30 + 2
 - Break apart 48 into 40 + 8

$$[30 + 2] \times [40 + 8]$$

$$= (30 \times 40) + (30 \times 8) + (2 \times 40) + (2 \times 8)$$

- Second way: Break apart 32 into 20 ± 10 ± 2
 - Break apart 48 into 40 + 8

$$[20+10+2] \times [40+8]$$

$$= (20 \times 40) + (20 \times 8) + (10 \times 40)$$

$$+[10 \times 8] + [2 \times 40] + [2 \times 8]$$

- = 800 + 160 + 400 + 80 + 80 + 16 = 1,536
- Third way : Break apart 32 into 30 + 2
 - Break apart 48 into 20 + 20 + 8

$$[30+2] \times [20+20+8]$$

$$= [30 \times 20] + [30 \times 20] + [30 \times 8]$$

$$+[2\times20]+[2\times20]+[2\times8]$$

$$=600+600+240+40+40+16=1,536$$

40		8
30	30 × 40 = 1,200	30 × 8 = 240
	2 × 40 = 80	2 × 8 = 16

	40	8
20	20 × 40 = 800	20 × 8 – 160
10	10 × 40 = 400	10 × 8 = 80
2	2 × 40 = 80	2 × 8 = 16

	20	20	8
30	30 × 20	30 × 20	30 × 8
20	= 600	= 600	= 240
2	2 × 20	2 × 20	2 × 8
4	= 40	= 40	= 16

- Try to find another ways as . Break apart 32 into 10 + 11 + 11
 - Break apart 48 into 20 + 20 + 8

Check

dieck your understanding

Use the Distributive Property to find each of the following products.

a. 26 x 42

b. 34 × 629

Notes for parents:

Ask your child to find more ways to find the product of 32 x 48.

Exercise

on lessons 182

Using the Area Model to Multiply

▶ The Distributive Property of Multiplication

REMEMBER DUNGERSTAND CAPPEY & PROBLEM SOLVING

III From the school book

Complete.

2. (1) Writing Expressions. Write an expression to complete each equation using powers of ten for each given number.

3. 🕮 Multiplying Tens. How many times will 10 need to be multiplied by itself to equal each given number?

- a. 100
- c. 10,000

- b. 1,000
- d. 100.000

4. Complete each of the following area models.

- a.
- 10
- 6

30

- b.
- 50 4 20 3

- 5 70 100
 - 80 2
- 5 d.

0		
5		

300 60 1

5. Expanding Equations. Create an area model for each of the following problems and find each product.





Solve each of the following problems using an area model.

140

Use the Distributive Property of Multiplication and area model to find the product of each of the following.

+[4×--]=

80

$$[40 \times] + [40 \times 8] + [- \times 50] + [2 \times] = -$$

$$[10 \times -] + [\times 2] + [\times 60] + [9 \times -] = -$$

d. (20×30)+(--×--]+{ ×]+(4×7]=----

	30	7
20	600	140
4	120	28

UNIT 3 CONCEPT 1

e, (1) 40 7
30 1,200 210
9 360 63

f. 🕮	60	3	
20	1,200	60	
9	540	27	
_			

8. Complete the area model and evaluate.

a.	$(50 \times 30) + (50 \times 4) + (7 \times 30) + (7 \times 4) = -$	

	30	4
50		200
	210	

b. \square [40 × 40] + [40 × 8] + [9 × 40] + [9 × 8] =

	40	
	1,600	
9	36	72

9. Decompose with Area Model. Eman is planting a garden. She wants to find the area of the garden to know how much topsoil she will need. The garden is 46 meters long and 24 meters wide. How many different ways can you decompose the numbers to help her find the area?

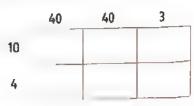
	20	20	6
20			
4			



10. 💷 Flexible Numbers Solve.

a. Here are three ways students thought to find the product: 14 × 83. Record their work in an area model and evaluate. Remember the addends on each side must equal 83 and 14 respectively.

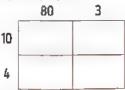
Mazen: $[40 \times 10] + [40 \times 10] + [40 \times 4] + [40 \times 4] + [3 \times 10] + [3 \times 4]$



Lamiaa: $(80 \times 7) + (80 \times 7) + (3 \times 7) + (3 \times 7)$

	80	3
7		
7		

Reeda: $(80 \times 10) + (80 \times 4) + (3 \times 10) + (3 \times 4)$





- b. Here are three ways students thought to find the product: 33 × 26 using an area model. Write an expression for each model.
 - , then choose one of the area models to evaluate the expression.

_	30	3			20	10	3
20				20			
6		_		6			
			11	11	11	1	
		10					
		10					

c. Create an area model and evaluate: 42 × 34 =

11.	Use the	Distributive Property to	Solve each probler	n.
-----	---------	--------------------------	--------------------	----

- a. 7×45=----
- b. 2×98=----
- L 13×66= ---

- d. 37 × 52 = ---
- e. 24 × 107 = ----
- f. 48 × 215 = ----

- g. 53 × 246 = ----
- h. 9 × 3.123 = ----
- i. 6 × 2.031 = ----

12. (...) Ali walks 6 kilometers each day. If he walked 187 days a year

, how many kilometers would he walk?

13. (1) What if All were to drive 60 kilometers each day? How many kilometers would he drive in 187 days?

14. Mina runs 14 hours every week.

What is the number of running hours in 52 weeks?

Sara bought 36 boxes of juice for 125 L.E. each.

How much money did Sara pay in all?

16. Eslam ordered 387 books for his library. Each book costs 46 LE.

How much money did Estam pay in all?

17. Complete.

a.
$$15 \times 46 = [10 \times] + [10 \times 6] + [5 \times 40] + [--- \times 6]$$

b.
$$328 \times 67 = (300 + \dots + 8) \times (30 + \dots + 7)$$

c.
$$253 \times ---- = [70 \times 200] + [70 \times 50] + [70 \times 3] + [4 \times 200] + [4 \times 50] + [4 \times 3]$$

d.
$$63 \times 1,905 = [60 \times -] + [60 \times -] + [60 \times -] + [3 \times -] + [3 \times -]$$

e.
$$--- \times 35 = [30 \times 400] + [30 \times 70] + [30 \times 8] + [---- \times 400] + [---- \times 70] + [---- \times 70]$$

f.
$$234 \times 57 = [200 \times 50] + [200 \times 7] + [30 \times 50] + [30 \times ---] + [4 \times 50] + [4 \times 7]$$
 (Cairo 23)

g.
$$38 \times 14 = (30 \times -) + (30 \times 7) + (8 \times -) + (8 \times -)$$

Error Analysis: Read the problem and complete the error analysis.

Badir thinks $206 \times 45 = 11,700$. Identify what Badir did correctly and incorrectly and then solve the problem.

	200	60	0	B. 0 0 0
40	8,000	2,400	0	+ 1, 0 0 0 + 2, 4 0 0
5	1,000	300	0	± 300 11,700

- What did the student do correctly?
- Z. What did the student do incorrectly? Why do you think he made this error?
- Try to solve the problem correctly. Explain your thinking.

19. Math around Egypt: The Fennec Fox

Use a model to solve the problem.

When a Fennec fox builds a den, it can have up to 15 different entrances.

How many entrances could 32 dens have?



Fennec Fox

20. 🕮 Math around Egypt :

Omar owns a travel company that takes visitors throughout the mountains of the Eastern Desert which is a mountain range that runs parallel to the Red Sea coast.

He has 12 buses. Each bus can hold 25 passengers.

How many passengers can Omar take each day if every bus is full?

Multiple Choice Questions

Choose the correct answer.

B. 174 × 68

D. 274 × 68

2.
$$[3 \times 61] + [5 \times 61] = --- \times 61$$

4. $(11 \times 3) + (11 \times 20) + (11 \times 100) = 11 \times$

(El Menia - Deir Mawas 23)

B. 35

D. 6

(Cairo - El Sherouk 23)

B. 42

D. 6

B. 321

(Ismailia 23)

D. 210

B. 5×60

 $D.50 \times 60$

 $+ (3 \times 600) + (3 \times 30) + (3 \times 1)$

 $--=(50 \times 600) + (50 \times 30) + (50 \times 1)$

B. 635 × 31 D. 651 × 35

7. What is the unknown value in the area model of 53 × 795?

	700	90	5
50	?	4,500	250
3	2,100	270	15

- A. 4,500
- B. 3,500

C. 35

D. 35,000

- 25 pounds each. How much money did he pay?
 - A. 3,400 LE.

B. 3,170 L.E.

C. 3.200 LE.

D. 3.236 L.E.

9. $24 \times 136 = -$

A.
$$(20 \times 100) + (20 \times 3) + (20 \times 6)$$

+ $(4 \times 100) + (4 \times 30) + (4 \times 6)$

B.
$$(20 \times 100) + (20 \times 30) + (20 \times 6)$$

+ $(4 \times 100) + (4 \times 30) + (4 \times 6)$

C.
$$[4 \times 1] + [4 \times 3] + [4 \times 6] + [2 \times 1] + [2 \times 3] + [2 \times 6]$$

D.
$$(2 \times 100) + (2 \times 30) + (2 \times 6)$$

+ $(4 \times 100) + (4 \times 30) + (4 \times 6)$

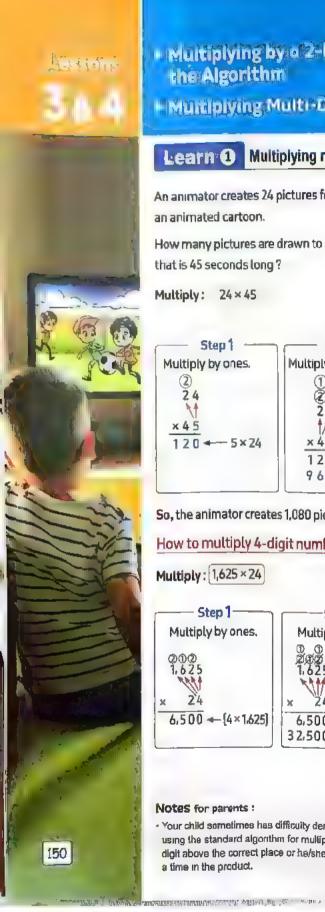
10. 73 × 24 = --

A.
$$(70 \times 40) + (70 \times 2) + (3 \times 40) + (3 \times 2)$$

B.
$$(70 \times 10) + (70 \times 10) + (70 \times 4) + (3 \times 10) + (3 \times 10) + (3 \times 4)$$

C.
$$[70 \times 20] + [70 \times 20] + [3 \times 20] + [3 \times 20]$$

p.
$$(7 \times 20) + (7 \times 4) + (30 \times 20) + (30 \times 4)$$



- Multiplying by a 2-Digit Number Using the Algorithm
- Muniplying Multi-Digit Numbers

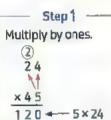
Multiplying numbers using the algorithm Learn 1

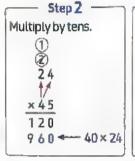
An animator creates 24 pictures for each second of an animated cartoon.

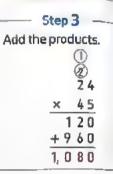
How many pictures are drawn to make a cartoon that is 45 seconds long?

Multiply: 24 × 45





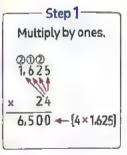


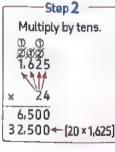


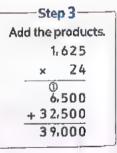
So, the animator creates 1,080 pictures to make a 45-second cartoon.

How to multiply 4-digit number by 2-digit number?

Multiply: 1,625 × 24







Notes for parents:

· Your child sometimes has difficulty demonstrating proper regrouping when using the standard algorithm for multiplication. He/She may omit writing the digit above the correct place or he/she may attempt to place two digits at a time in the product.

Example 1

Use standard algorithm strategy to find the result.

a. 26×17

b. 429×25

 $c. 1.342 \times 34$

delution (

y (w		_		
		2	6	
х		1	7	
	1	8	2	
+	2	ò	0	
	4	4	2	

C,		1,	① ② 3	4	2
	x			3	4
	_	5,	3	6	8
	+	40,	2	6	0
		45,	6	2	8



wheek your understanding

Use standard algorithm strategy to find the result.

a. 35 × 862

b. 74 × 5.641

c. 2.504 × 16

The relation between area model, and standard algorithm for multiplication:

For Example Multiply 23 × 41

The two strategies give the same result but standard algorithm is the most efficient.

Area model

Standard Algorithm

① 23

41 23 +920

943

Check your understanding

Find in the area model from the standard algorithm.

30

5 4

Ask your child to multiply any number by a two-digit number.

Learn 2 Estimating products

You will learn how to use rounding to estimate product.

Example -

A merchant has 127 boxes of pens. Each box holds 36 pens.

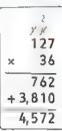
About how many pens does the merchant have?



Remoda greatest place value

The actual product

(using standard multiplication strategy)



Since 4,572 is close to 4,000 the answer is reasonable.

_		
. 6	Sec.	والخنم
10	mi F	- 44
		1,000

your understanding

Solve the following. First by estimate by round to the greatest place value, second use standard algorithm to find the actual product.

a. 872 × 23

Actual product:

Estimate: -

b. 3.254 × 49

Estimate: -

Actual product:

Notes for parents:

 Remind your child that although he/she has been learning different strategies for multiplication. mathematicians work towards being efficient in their calculations. It might take a long time to draw all area model to solve a problem, so they may choose to use an algorithm like partial products or the standard algorithm.

- Multiplying by a 2-Digit Number Using the Algorithm
- Multiplying Multi-Digit Numbers

RENEMBER

@ UNDERSTAND

O APPLY

& PROBLEM SOLVING

☐ From the school book

1. Find the result using standard algorithm.

26 x33

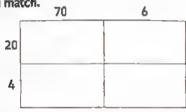
78 × 52

367

x 29

546 18

A Fill in the area model. Then, explain which parts of the area model and the standard algorithm match.



3. Determine the values of the missing digits and then find the final product.

a. 🕮

C.

4. Find the result.

c.
$$6 \times 3,407$$

- Lessons 384 REMEMBER • •
- Solve the following. First by estimate by round to the greatest place value, second use standard algorithm to find the actual product.
 - **Estimate** 888-× 29→×—

b.						Estimate
		7	2	1		
	×		7	4	->	х ——

Estimate

- 6. Estimate the product.
 - a. 416 × 72

d. 490 × 71

- b. 871×27
- c. 586 × 69
- e. 817 × 34
- f. 999 x 94
- 7. \square Akram says that 34 × 69 will give you the same product as $(34 \times 70) 34$
 - Do you agree or disagree? Why?
- 8. A group of 48 people want to travel by bus. Each bus ticket costs 175 L.E.
 - How much do they need to pay in all?

(Giza 23)

9. Circle the problem that has the greatest product.

Circle the problem that has the smallest product.

Multiple Choice Questions

choose the correct answer.

5. Which product is NOT correct?

A.
$$24 \times 36 = 864$$

B.
$$43 \times 702 = 30,186$$

D. $81 \times 205 = 16,605$

C.
$$321 \times 16 = 5,036$$

[Cairo - Zaiton 23]

7. Est mate the product of 971 × 23 is

D. 20

8. 327 × 53 () 199 × 43

9, 320 × 15 = ----

C. 48 hundreds

10. The missing number in the product is

Multiplication Problems in the Real World

Learn

How to solve multistep problems?

Some problems require more than one step.

To solve them, write out the steps you will use.

For Example:

Sayed sells pins and scarves.

He earned 6,000 pounds in just 4 months.

If he sold 80 pins for 15 pounds each,

how much did he earn from selling

scarves ?





Read to understand

- What question do you need to answer?
 How much did he earn from selling scarves?
- What information do you have?
 the total amount he earned: 6,000 pounds, the number of pins sold: 80 pins: the amount paid for each pin: 15 pounds per pin.



#Plon

How can you find the amount he earned selling scarves?
 Find the amount he earned selling pins. Then subtract that from 6,000 pounds



Solve

• Step 1: Find the amount he earned selling pins :

$$80 \times 15 = 1,200 \text{ pounds}$$

• Step 2: Find the amount he earned selling scarves :

Sayed earned 4,800 pounds selling scarves.

Notes for parents:

 Remind your child that multistep problem is a problem that involves more than one operation.



Example 1

Ahmed has a restaurant in Cairo in Monday he sold 213 sandwish of chicken. in Tuesday he sold 225 sandwish of chicken. He makes each sandwish of chicken with 75 grams of chicken. How many grams of chicken did he use in Monday and Tuesday?



Colution 🕅

- The number of grams that sold in Monday = 213 x 75 = 15,975 grams.
- The number of grams that sold in Tuesday = $225 \times 75 = 16,875$ grams.
- The number of grams that sold in Monday and Tuesday = 15,975 + 16,875 = 32,850 grams.

Example 2

A merchant bought 137 boxes of soft drinks for 97 pounds each and 17 boxes of cookies for 45 pounds each. How much money did he pay?



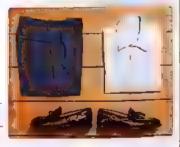
Solution [7]

- The price of soft drinks = 137 × 97 = 13,289 pounds.
- The price of cookies = $17 \times 45 = 765$ pounds.
- The total price = 13,289 + 765 = 14,054 pounds.

Check your understanding

A pair of trousers costs 125 pounds, a shirt costs 140 pounds and a pair of shoes costs 135 pounds. Ahmed wants to buy 3 pairs of trousers, 2 shirts and a pair of shoes.

How much is the total cost?



Some word problems have hidden question or questions that must be answered before you can solve
the problem. You have to determine what operation to use and what strategies will you use to help you
figure out how to solve the problem.





Multiplication Problems In Real World

• REMEMBER

BELL AND CHEST

& PROBLEM SOLVING

From the school book

 Sandwiches at the dinner are 24 pounds, a salad costs 3 pounds and a glass of juice is 8 pounds. A Family went to the diner and order 3 sandwiches, 2 salads and 3 glasses of juice.



- a. How much will the family pay for the 3 sandwiches?
- b. How much will the family pay for the 2 salads? -
- c. How much will the family pay for the 3 glasses of juice?
- d. How much is the total bill?
- Shirts in the seasons costs 185 pounds. Sweaters cost 270 pounds. Yara and her friends bought 12 shirts and 13 sweaters.
 - a. How much will they pay for the shirts? –
 - b. How much will they pay for the sweaters?
 - c. How much is their bill? ~



3. Mona has a restaurant in Al-Quesyr. It is a tourist city located on the coast of the Red Sea. In February, Mona sold 402 kebabs. In March, she sold 753 kebabs. She makes each kebab with 83 grams of meat. How many grams of meat dld she use in February and March?



4. Wael makes baklava. It needs 170 grams each of pistachios, walnuts, and nazelnuts. In order to make enough for restaurant customers, he needs to multiply his recipe by 18.

How many total grams of nuts will be need?



5. A factory can produce 500 pairs of pants during a 10-hr. per day.
If the factory produces 55 pairs per hour for the first 8 hr.
How many are left to produce during the rest of the day?
How many pairs of pants can produce during 30 days?



Petra saved 123 pounds, Logy saved 12 times as Petra,
 Mariam saved 15 times as Petra.
 How much money they saved?



7. For Wael's baklava syrup, he needs 250 mL of honey,
15 mL of orange extract, and 30 mL of lemon juice per recipe.
How many total milliliters of liquid ingredients will he need for the sauce if he needs to make 18 batches?



8. Mona uses 140 grams of sesame seeds to make 120 milliliters of tahini. She makes the recipe 20 t mes each week. How many grams of sesame seeds does she use each week? How many milliliters of tahini does she make in 36 weeks?



 A factory produces 6,580 toys each month. Another factory produces 7,375 toys each month. Find the difference of their product in one year.



10. Mona uses 6 lemons for each liter of lemonade.
She makes 8 liters of lemonade a day. After 365 days, how many lemons has she used?
How many liters of lemonade does she make in 365 days?
Mona uses 1,133 grams of sugar daily.
How many grams does she use in 30 weeks?



Unit Three Assessment



Choose the correct answer.

1. Estimate the product of 971 × 23 is

(Cairo - El Zaiton 23)

- A. 20,000
- B. 8,000
- C. 2.000
- D. 20

- 2. 38 × 564 = ~
 - A. 20,532
- **B.** 21,433
- C. 21,432
- D. 20,332
- A merchant bought 136 boxes of juice for 25 L.E. each. How much money did he pay?
 - A. 3,400 L.E.
- B. 3,170 L.E.
- C. 3,200 L.E.
- D. 3,236 L.E.

700

- 4. What is the unknown value in the area model of 53 × 795?
- 50 t
- 90 5

A. 4,500 C. 35

- **B.** 3,500 D. 35,000
- 3
- ? 4,500 250 15 2,100 270

- 5. 160 × 15 ==
 - A. 24 Thousands
- B. 24 Hundreds
- C. 24 Tens
- D. 24 Hundredths

- 6. 327 × 53 (199×43
 - A. >
- B. <
- C. =
- 7. Which distributive products can be used to solve 83 x 15?
 - A. $(8 \times 1) + (8 \times 5) + (3 \times 1) + (3 \times 5)$
- B. $[80 \times 10] \times [80 \times 5] \times [3 \times 10] \times [3 \times 5]$
- C. $[80 \times 10] + [80 \times 5] + [3 \times 10] + [3 \times 5]$
- D, $[80 \times 1] + [80 \times 5] + [3 \times 10] + [3 \times 5]$

2. Complete the following.

7,585

[Giza – Awseem 23]

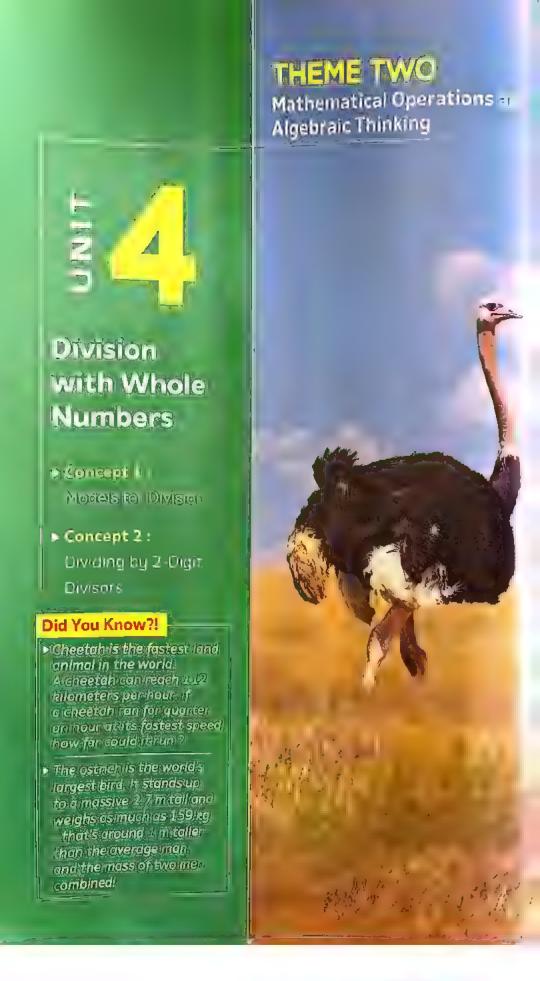
- 3. ----×1,000 = 340,000
- The product of 899 × 11 is closer to the product of × —
- (Souhag 23)

- Sara bought 36 books for 100 L.E. each. She paid = -
- 6. 4.231 × 3 = -

- (Giza Awssem 23)
- 7. The Ones digit of the product of 2,786 × 84 will be -
- 8. $78 \times = [3 \times 8] + [20 \times 8] + [3 \times 70] + [20 \times 70]$
- (Giza Abo El Nomrus 23)

		oose the correct answ			
9	1.	49 × 523 is closer to —			
		A 2,500	B. 25,000	C. 20,000	D. 2,000
	2.	A shoes costs 400 L.E., then a shirt cost = -		uch as a shirt costs	(Aswan – Kom Ombo 23
		A 500	B. 396	C. 300	D. 100
	3.	The multiplication prolarea model is		the opposite	60 5
		A. 46 × 35	B. 56×34		40 2,400 200
		C. 65 × 43	D. 43 × 605	\$	3 180 15
	4,	24 × 15 = Ter	าร		
		A. 360	B. 36	C. 3.6	D. 3,600
	5.	74 ×= (74 × 5) + (74 × 3)		(Cairo – El Marg 23)
		A. 8	B. 15	C. 47	D. 74
	6.	29 ×= 2,900			
		A. 10	B . 100	C. 1,000	D. 10,000
	7.	3 Hundreds × 7 Hundr	eds = Hundre	ds.	
		A. 210,000	B. 2,100	C. 21,000	D. 21
4.		nswer the following qu Ahmed has 300 pound 18 pounds a pair. How much money will			
	2.	Youssef walk every da he walk?	y 5 km, if he walk 154 d	ays in the year. How r	many kilometers did (E. Kalyoubia 23)
	3.	Ahmed bought 10 per How much money Ah		he price of one pen is	4.5 pounds. (Souhag 23)
	4.	Fill in the area model. algorithm match.	Then explain which par	rts of the area model	and the standard

tch.							3 %	
	80	5						5
60				×			6	3
-						2	5	S
3	-			+	5,	1	0	0
			•		5,	3	5	5









Estimating Quotients

What a division?

Division The act of breaking into equal parts or groups.

Dividend: The number being divided.

• Divisor: The number that divides.

· Quotient: The answer to a division problem.

 Remainder: The amount left over that is not enough to form another equal group.



$$28 \div 3 = 9$$
 R1

Dividend Divisor Quotient Remainder

Note that

The remainder is always less than the divisor.

Remember:

Basic facts, pattern and place value can help you divide.

Use the basic fact
$$2 \times 3 = 6$$

$$2 \times 3 = 6$$

$$2 \times 3 = 6 \times 0$$

hree zeroes

Three zeroes

Use the basic fact
$$6 \div 3 = 2$$

$$6 \div 3 = 2$$

$$6 0 \div 3 = 2 0$$

$$6 0 0 \div 3 = 2 0 0$$

$$6, 0 0 0 \div 3 = 2, 0 0 0$$
Three zeroes Three zeroes

Remember how to Divide by one-digit number by using the area model:

Divide: 615 ÷ 3

$$\begin{array}{c|cc}
200 & 5 \\
3 & 3 \times 200 = 600 & 3 \times 5 = 15
\end{array}$$

So
$$,615 \div 3 = 200 + 5 = 205$$

Notes for parents:

anmiden alegal process as a recess of

 Remind your child that he/she practised solving devision problems with a 1-digit divisor using an area model in primary 4

Learn 1 Dividing by a two-digit number

A factory made 1,845 T-shirts in 15 days.

If the factory made the same amount daily

, how many T-shirts did the factory make each day?

To determine the number of T-shirts in each day, we should divide 1,845 by 15



By using the area model

Step

Draw a long rectangle and write 15 on the smaller left side of the rectangle.



Step

Try to use basic facts and pattern to get close to 1,845

$$(15 \times 100 = 1,500)$$
 (close to 1,845)

100 1, 8 4 5 15 15 0 0 3 4 5

Step:8

There are 345 left to be divided by 15

 $15 \times 2 = 30$

- $15 \times 20 = 300$ [close to 345]
- Subtract 345 + 300 = 45

	100	20	
15	1, 8 4 5 _ 1, 5 0 0 3 4 5	345 -300 45	

Step/4

Since, there are 45 left to be divided by 15

 $15 \times 1 = 15$, $15 \times 2 = 30$, $(15 \times 3 = 45)$ [the same number]

• Subtract: 45 - 45 = 0

	100	20	3
15	1, 8 4 5	3 4 5	4 5
	- 1, 5 0 0	<u>3 0 0</u>	2 4 5
	3 4 5	4 5	0 0

Step 5

Add the 3 numbers 100 + 20 + 3 = 123

then: 1,845 ÷ 15 = 123

The factory made 123 T-shirts daily.

Ask your child to solve many exercises on division by two-digit number.

Example 1

Use the area model to solve each of the following problems.

Solution [7]



	100	10	10	10	8
71	9, 7 9 8 - 7, 1 0 0 2, 6 9 8	2. 6 9 8 7 1 0 1. 9 8 8		1.278 710 568	5 6 8 5 6 8 0 0 0

Then $.9.798 \div 71 = 100 + 10 + 10 + 10 + 8 = 138$

a.

	100	100	10	1	
35	7, 3 9 1 = 3, 5 0 0 3, 8 9 1	3, 8 9 1 - 3, 5 0 0 3 9 1	3 9 1 - 3 5 0 4 1	41 -35 -6	The remainder

Then $,7,391 \div 35 = [100 + 100 + 10 + 1]$ and remainder 6 = 211 R6

C.

	10	10	10
90	2,700	1,800	900
	- 900	- 900	-900
	1,800	900	000

Notice that —

We can use mental math to divide 2,700 \div 90 by canceling from each side 0, then ,270 \div 9 = 30

Then $,2,700 \div 90 = 10 \div 10 + 10 = 30$



your understanding

1. Complete.

a. If $34 \div 8 = 4 R2$, the dividend is

and the remainder is-

- b. 203 ÷ 4 = 50 R____
- 2. Solve the following problems using the area model.
- a. 5,325 ÷ 25

b. 3,930 ÷ 12

Notes for parents:

Remind your child to use multiplication to check his/her answer when he/she solved a division problem

Learn 2 Estimating quotient

We can use estimation to check the reasonableness of our answers.

For Example: To estimate the quotient of 1,920 ± 16

Round the dividend to the nearest thousand.

Step 2 Round the divisor to the nearest ten.

Example 2

Estimate using compatible numbers.

Then, solve using an area model 4,641 ÷ 51

Solution [7]



Then, 5,000:50=100

Finding the actual quotient using area model:

Then, $4,641 \div 51 = 80 + 10 + 1 = 91$

Estimation: 100

Exactly:91

The answer is reasonable.



your understanding

Estimate using compatible numbers. Then, solve using an area model.

Discuss the purpose of rounding versus basic facts to estimate by asking your child which method makes the problem easier to calculate mentally. Demonstrate how using a basic fact makes estimating easier for 4,541 + 51 by having your child try to find each of these quotients mentally : 5,000 + 50, 4,500 + 50.

Exercise

- Dividing by a Two-Digit Number
- Estimating Quotients

REMEMBER

TAND OMPHY

& PROBLEM SOLVING

From the school book.

Complete the following.

1. If $676 \div 52 = 13$, then the dividend is –

(Cairo - El Zaiton 2)

The remainder of divided 17 by 5 is —

(Cairo - El Salam 2)

The quotient in 480 ÷ 10 = 48 is —

(Souhag 2)

4. 34 ÷ 4 = 8R ---

[Alexandria - First Montaza 2]

5. $0 \div 23 = -$

[Giza - Awseem 20

Complete each set of multiplication and division equations.

a. 🛄 3 × 5 = —

b. 12×3=--

c. 4×2= ---

 $3 \times 50 = -$

12 × 30 = ---

40 × 20 = ----

 $3 \times 500 = -$

 $12 \times 300 = -$

400 × 200 = --

d. 6 ÷ 3 = ----

e. 18 ÷ 6 = ----

f. 35 ÷ 7 =

60 ÷ 3 = ----

180 ÷ 6 = ----

350 ÷ 7 = -

- 600÷3=--
- 1.800 ÷ 6 = ---
- 3.500 ÷ 7 = ---

Use mental math to divide.

a. $3,600 \div 9 =$

b. $4.000 \div 5 = -$

c. $160 \div 80 =$

- d. 🕮 140 : 20 = ---
- e. 49 5,600 ÷ 70 =
- f. \square 2,400 \div 80 = -

- q. 42 8,100 ÷ 90 =
- h. $6,300 \div 30 = -$
- i. $12,000 \div 40 =$

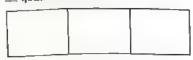
Use the area model strategy to solve the division equations.

a. 🕮 2,207 ÷ 7 =

	1

b. 2,794 ÷ 11 ~

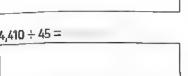
c. 1,625 ÷ 13 = -



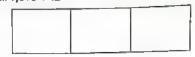
e. $1.035 \div 23 =$



g. $4,410 \div 45 =$



d. 7,896 ÷ 12 =



f. 1.428 ÷ 21 = -



h. 5,479 ÷ 15 =	

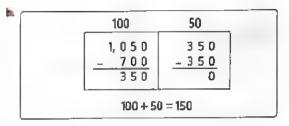
5. 💷 Choose the correct area model that represents each problem and fill in any missing numbers. Then, use the area model to answer each problem.

Ç,

1. 9,234 ÷ 81 =

a. 10 6 100 212 3,622 522 _ 3 1 0 3, 1 0 0 186 31 26 212 522 100 + 10 + 6 = 116 R26

2. 3,622 ÷ 31 =



1,050 ÷ 7=

81	9, 2 3 4 = 8, 1 0 0 1, 1 3 4	1, 1 3 4 = 8 1 0 3 2 4	324 -162 162	162 -162 0
ľ	+-	-+	+	=

a. L.1 5.814 ÷ 47 =

Estimation:

Solution *

c. 1448 ÷ 48 =

Estimation:

Solution:

e. 6,658 ÷ 69 = -

Estimation:

Solution: -

b. 6,397 ÷ 28 = Estimation:

d. $7,061 \div 23 =$

Solution:

Estimation: -Solution: -

f. 1,064 ÷ 19 =

Estimation:

Solution:

7. 🔝 Writing About Math. Error Analysis, Look at the problem, and analyze the student's area modeLidentify what the student did incorrectly.

Divide: 2.852 + 24 = -

Student's area model: 24) 2,852

	10	5	100	3_
24	2, 8 5 2 - 2 4 0 2, 6 1 2	2,612 - 120 2,492	2, 4 9 2 - 2, 4 0 0 9 2	$\frac{92}{-72}$

$$2.852 \div 24 = 20$$

Challenge

8. Which choice best completes the area model to find 1,754 ÷ 14?

- A. 10
- B. 20
- C. 30
- D. 100

	100	?	5	
14	1, 7 5 4 - 1, 4 0 0 3 5 4	354	7 4 - 7 0 0 4	R4

Multiple Choice Questions

Choose the correct answer.

1. The divisor in 216 \div 43 = 5 R1 ls -

[Ismailia 23]

A. 216

- B. 43
- C. 5

D. 1

2. 640÷ = 640 (Souhag 23)

A. 0

- B. 1
- C. 10

D. 100

- 3. In the opposite area model, which choice best represents the problem?
- 100 10 5 1 1.740 240 90 15 _ 15 15 -1,500- 150 - 75 240

- **A.** $1.740 \div 15 = 1.151$
- C. $1,740 \div 15 = 116$

- **B.** $1.740 \div 15 = 100 + 151$
- **D.** $1,740 \div 51 = 116$
- 4. Which area model best represents 2,583 ÷ 21?
 - 100 20 3 483 2, 583 63 . 2, 100 420 63 21 0.0
- 3 10 100 483 263 2583 263 210 21 2,100 483 000

20

6

- 100 10 42 483 2.583 63 2, 100 420 63 C. 21 483 0 0
- 63 483 2.583 D. 21 2,100 420 63 0 0 483 63

100

5. 29 ÷ 4 = 7 R

(Cairo - El Marg 23)

A. 0

A. 11

A. 4

B. 1

C. 2

D. 3

(Ismailia 23)

6. 1,515 ÷ 15 =

D. 15

- C. 1,001
- (Giza Awssem 23)

- 7. 4,150 ÷ 29 = 143 R
- B. 2

B, 101

C. 1

D. 3

- 8. 2,002 ÷ 22 =
 - A. 19
- B. 91

C. 109

D. 901

Concept

Dividing by 2-Digit Divisors



O Did You Know?!

The emperor penguin is the world's largest penguin. It can weigh up to 40 kg. In the Antarctic, an adult male emperor penguin will keep a single egg warm for about 63 days until the egg hatches.

About how many weeks will the panguin keep the egg warm?

Lesson No	Lesson Name	Learning Objectives
	Using the Division	• Students will use the standard algorithm to divide by a 2-digit divisor.
1	Algorithm	
Lessons 3&4	The Relation between	 Students will use the standard algorithm to divide by a 2-digit divisor.
	Division and Multiplication	 Students will use multiplication to check answers to division problems.
Lesson 5	Multistep Story Problems	 Students will solve multistep story problems involving whole numbers
Le25011.3	Protustep atory Problems	and the four operations.



- Using the Division Algorithm
- The Relation between Division and Multiplication



The Division algorithm

The price of 25 similar toys is 5,325 pounds. If you want to know the price of each toy.

you can divide

5,325 ÷ 25 or 25)5, 325

You can use the division algorithm strategy.



		Fac.
Step 1 O • Divide 5 ÷ 25 25) 5, 3 2 5 but 5 < 25 then write 0 over 5	Step 2 0 2 25)5,325 Write 2 over 3 - 50 Multiply 2 × 25 = 50 Write 50 vunder 53 Subtract 53 - 50 Compare 3 < 25	Draft You can use this draft to estimate the result of dividing by 25 1 × 25 = 25 2 × 25 = 50 53
Step 3	Step 4	$3 \times 25 = 75$
0 21 • Bring down the 25)5, 3 2 5 • tens (2) - 5 0	75	Note 53 lies between 50 and 75 So we take 2 when dividing 53 by 25

, then the price of each toy is 213 pounds.

Notes for parents :

• To help your child remember all steps in the division argorithm, let him/her use the following mnemonic or make up one of his/her own: Don't Make Silly Careless 173 Blunders (Divide, Multiply, Subtract, Compare, Bring Down).

► Other Examples:

a. With a remainder 3,594 ÷ 19

The remainder should always be less than the divisor.

Remember

• then $3,594 \div 19 = 189 R3$

b. Zero in the quotient 4,316 ÷ 42



Divide Multiply Subtract Compare Bring down

Repeat this order until the division is complete.

$$19 \times 2 = 38$$

Step 1	Step 2
0 • Divide 4 ÷ 42 42)4, 316 4 < 42 then write 0 over 4	01 • Divide 43 ÷ 42 42)4, 316 • Write 1 over 3 - 42 • Multiply 1 × 42 = 42 • Write 42 runder 43 • Subtract 43 - 42 • Compare 1 < 42
Step 3	Step 4
0 1 0 e Bring down the tens (1) o 11 < 42, you cannot divide. - 0 • Write a 0 over 1.	0 1 0 2 • Bring down the ones[6] - 4 2 • Divide 116 ÷ 42 1 1 • Write 2 over 6 - 0 • Multiply 2 × 42 = 84 1 1 6 • Write 84 * under 116 - 8 4 • Subtract 116 - 84 3 2 • Compare 32 < 42

Draft

42 × 1 = 42

43

42 × 2 = 84

116

42 × 3 = 126

, then 4,316 ÷ 42 = 102 R 32

Notes for parents:

· Remind your child of including the remainder as a part of the answer

Example 1

Divide by using the standard algorithm.

a. 5,850 ÷ 26

Solution 🕎

a.	225	
	26)5,850 - 52 +	
	- 52+L	
	65	
	- 52 †	
	130	
	_ 130	
	000	0 < 26
	000	0 720

, then 5,850 ÷ 26 = 225

b. 4,995 ÷ 14

b. 356 14)4,995 - 42¢ 79 - 70° 95 - 84 11 11<14

then 4,995 ÷ 14 = 356 R 11



Check your understanding

Divide.

a. 1,716 ÷ 12

b. 21)5,315

c. 245,034

Remind your child to start division from the left.

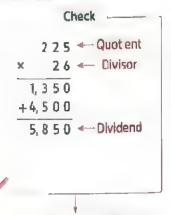
Learn 2

The relation between division and multiplication.

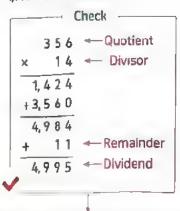
You can use the idea that multiplication and division are inverse operations. Multiply the quotient by the divisor. Then add the remainder. The sum should equal the dividend.

Dividend = [Quotient × Divisor] + Remainder

The check for example 1 is shown below.



Dividend = Quotient × Divisor

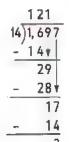


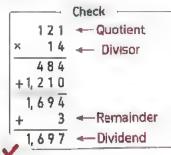
Dividend = (Quotient × Divisor) + Remainder

Example 2

Divide 14)1,697, then check your quotient with multiplication.

Solution 🕅







your understanding

Divide 2,916 ÷ 12 , then multiply to check your answer.

Notes for parents:

· Help your child check his/her answer with multiplication.

Exercise 17

- Using the Division Algorithm
 - The Relation between Division and Multiplication

REMEMBER

• UNDERSTAND

OMPH

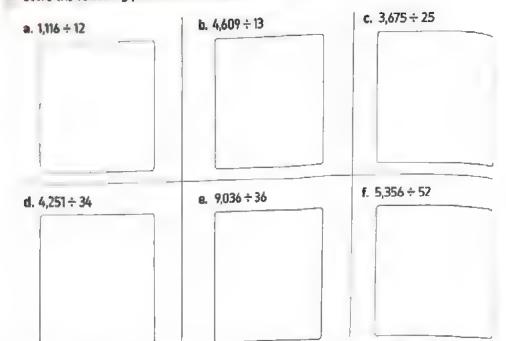
A PROBLEM SOLVING

From the school book

1. Divide using the standard algorithm for division.

a. (2) 192	b.m 22)756	c. (1) 43)1,376
d. (2) 65) 5 4 3	e. 🕮 46)8,014	f. 25)5 47
g. 18)5,009	h. 81)9,567	I. 11)6, 2 0 3
j. 48) 1, 9 7 4	k. 29)7 2 5	1. 57)5,262
m. 15)5,314	n. 15)1,515	o. 18)1, 8 1 8
		[1

2. Solve the following pro	blems. Check your answer.
----------------------------	---------------------------



0			-			1
	a.	4.216 ÷ 34	\bigcirc	126	b. 9.225 ÷ 45	

. 16,002 ÷ 63	2×130	Ø, 7,000 ₹ 29

 3×120

3. Compare using (<, = or >).

e. 23,112 ÷ 72

 20×12 f. 14,640 ÷ 61

200 + 5

300 + 52

4.	A school distributed 840 books among 15 classes equally , find number books in each class
Ó	[E. Monofia – Shiben El Kom 2

A notel consists of 180 rooms divided into some equal floors. Every floor has 15 rooms.

Find the number of floors. (El Beneira - Housh Essa 23)

- 6. (a) Solve the problems using the standard algorithm. Check your work using an area model.
 - a. At her cafe, Rana sells cookies baked by a local bakery. She receives an order of 350 cookies. Rana packages the cookies in groups of 12 cookies per bag. Solve to find how many full bags containing 12 cookies each, Rana can sell from her order of 350 cookies and how many cookies are left over.
 - b. How could Rana package the cookies so that each bag contains the same number of cookies and she has none left over?
- Ziad works in a clothing factory that produces shirts. He has 100 buttons and needs 16 buttons for each shirt After dividing, he thinks he has enough to make 6 shirts and will have 4 buttons left over. Is Ziad correct in his thinking? Why or why not? Explain your thinking.



8. Complete.

If 5,528 + A = 15 R8 , then A × 15 --

Multiple Choice Questions

Choose the correct answer.

- 1. If $3.012 \div 12 = 251$ then $251 \times 12 =$
 - A. 3.012

[6|za 23]

- B. 3.012
- C 3.014 D. 3.015

2. The division equation that matches

 $125 \times 36 = 4.500 \text{ is}$

- A. 4,500 125 = 36
- B. $125 \div 36 = 4.500$
- C. $4,500 \div 36 = 125$ D. 125 + 36 = 4.500
- Which expression can be used to check

the solution of the following division problem?

8.668 ÷ 24 = 361 R4

A. 24 × 361

- B. 28 × 8,668
- C. $361 \times 4 + 24$
- D. $24 \times 361 + 4$

4. Quotient of 7,668 ÷ 54 is

(E. Monofia - Shiben El Kom 23)

A. 142

B. 124

C. 214

D. 241

What is the value of M

in the opposite division

15 5, 1 3 0

problem? A. 324

B. 342

- C. 234
- D. 432

- 6. $9.363 \div 31 =$
 - A. 302R1
- B. 302 R 2
- C. 302
- D. 302 R4

7. $8,283 \div 33 =$

A. 25

B. 215

C. 512

D. 251

8. If $26 \times 352 = 9.152$, then $9.155 \div 26 =$ A. 352

- B. 352 R 1
- C. 352 R 2
- D. 352 R 3

(El Monofia - Tala 23) [Giza - Awseem 23]

9. If 7,785 \div 31 = 251 R 4, then 31 × 251 + 3 =

A. 7.786

- B. 7,785
- C. 7,784
- D. 7,783
- 10. A car its length 196 cm, a factory design a car sample its length 4 cm. How many times the car longer than the car sample?

A. 47

B. 48

C. 49

D. 94

(El Katyoubia 23)



Multistep Story Problems

How to solve multistep story problems? Learn

Here are some guided steps you may use when solving problems.



Read to understand

- Read the story loudly more than one time carefully.
- Identify the details and quantities given.
- Identify the hidden question (if exists).
- Search for key words.



Plan

- Decide the operation (+ *= * * * †).
- Decide the strategy you can use to solve the problem.



Solve

- Solve the hidden question (if exists).
- How can you use the strategy to solve the problem?



Check

- How do you know your answer is correct?
- What other strategy could you use to solve the problem?



Read to understand



Solve.











Example

In one years a school used 15,730 red papers, 3,960 fewer blue. papers than red papers, and 4,510 fewer green papers than blue papers.

How many papers were used in all?

Notes for parents :

· Remind your child that multistep problem is a problem that involves more than one operation.

Solution 🖓





The school used 34,760 papers in all.

Example 2

Hany and his father are going on a road trip to his grandfather's house, which is 700 km away.

On the first day, they travel 253 km. On the second day, they travel 307 km. How many kilometers will they need to travel to reach his grandfather's house?

Solution 🕎

The left distance after the first day = 700 - 253 = 447 km.

The left distance after the second day = 447 - 307 = 140 km.

then, they need to travel 140 km to reach the grandfather's house.

Example 3

Ashraf has 1,578 L.E. He bought a book for 52 L.E., and by the left money he bought 14 shirts of the same kind. What is the cost of each shirt?

The left money = 1,578 - 52 = 1,526 L.E.

The cost of each shirt = $1,526 \div 14 = 109$ L.E.

109
14)1,526
- 14
126
- 126
0

Notes for parents:

Some story problems have hidden question or questions that must be answered before you can solve
the problem. You have to determine what operation to use and what strategies will you use to help you
figure out how to solve the problem.

Example 4

Amany wants to buy 150 m of cloth and there are two different kinds of the cloth. If the price of each 50 m from the first kind is 1,000 L.E. and the price of each 30 m from the second kind is 500 L.E.

How much money will be saved by buying the second kind?

Solution [V]

First kind: 1,000 1,000 1,000 50 m 50 m 50 m

The price of the first kind = 1,000 + 1,000 + 1,000 = 3,000 L.E.

500 500 500 Second kind: 500 30 m 30 m 30 m 30 m

The price of the second kind = $500 \times 5 = 2,500$ L.E.

The saved money = 3,000 - 2,500 = 500 L.E.



check your understanding

Amgad saved 550 pounds, Bassem saved 3 times as much as Amgad and Sameh saved 900 pounds more than Agmd. How many pounds were saved by all of them?

Ask your child to read the problem carefully and plan to solve it, then ask him/her to took back to check his/her answer.

Multistep Story Problems

· REMEMBER

at Court	

ROBLEM SOLVING

From the school book

1.	A baker made 140 servings of baklava for a party. If each baking tray holds 12 servings o
	baklava, how many trays will be needed to hold all the baklava?

- Mom baked a batch of 12 balah el sham. Two balah el sham fell on the floor. If 4 children split the remaining balah el sham equally, how many balah el sham will each child get?
- 3. Let In one year a textile factory used 11,650 meters of cotton, 4,950 fewer meters of silk than cotton, and 3,500 fewer meters of wool than silk. How many meters of fabric were used in all?
- 4. An architect is designing a bridge. The architect has two choices for materials. Mighty

 Steel sells 5 metric tons [t] of steel for 100,000 L.E. Silver Strong Steel sells 3 t of steel

 for 70,000 L.E. If the architect needs 15 t of steel, how much money will be saved by

 purchasing from Mighty Steel?
- 5. (a) Computer Depot sold 762 reams of paper. Paper Palace sold 3 times as much paper as Computer Depot and 143 reams more than Office Supply Central. How many reams of paper were sold by all three stores combined?

kilometers away. On Friday, they traveled 124 km. On Saturday, they traveled 210 km. How many kilometers will they need to travel on Sunday to reach his grandmother's house?

There are 1,354 animals in one barn. There are 574 goats, 346 cows and the rest are horses.
If 89 horses were sold, how many horses are left in that barn?

10. Amgad has 238 eggs in the warehouse. He collected another
122 eggs from his chickens yesterday. As he arranged all the
eggs in trays, he accidentally dropped 28 eggs on the ground.
How many unbroken eggs were left? Among the eggs left,
there were 126 brown eggs; How many were white eggs?



Unit Four Assessment



Choose the correct answer.

- a. In the division equation 4,235 \div 35 = 121, the divisor is
 - A. 4.236
- B. 35
- C. 121

100

3,084

1, 200

1.884

D. 1

X

684

600

84

84

00

(Giza 23)

- b. Using the opposite area model to divide 3.084 ÷ 12, then the value of X is
 - A. 100
- B. 50
- C. 10
- D. 5
- c. By using the following area model to divide, then the suitable division equation is

12

- A. $1.456 \div 13 = 1.102$
- **B.** $1.456 \div 13 = 211$
- C. $1,456 \pm 13 = 112$
- **D.** $100.102 \div 13 = 1.456$
- 100 10 1 1 156 26 13 1.456 1,300 _ 130 13 - 13 13 156 00

100

_ 1, 2 0 0

1,884

684

- d. If $3.012 \div 12 = 251$, then $251 \times 12 =$
- - B. 3,012 C. 3.014
- D. 3.015

- e. If 14 × 365 = 5,110, then 5,111 ÷ 14 =
- A. 365 R11

A. 3.013

- B. 365
- C. 365 R1
- D. 365 R15

- f. $3.681 \div 35 = 105 R$
 - A. 3
- B. 4
- C. 5
- D. 6

g. 1,212 + 12 =

[Alexandria - First Montaza 23]

- A. 12
- B. 11
- C. 101
- D. 1,001

2. Complete the following.

- a. $3.915 \div 15 = -$
- b. If the price of 16 books is 560 pounds, then the price of each book equals pounds.
- c. Quotient × divisor + remainder =
- **d.** $3,561 \div 1 =$
- e. $0 \div 51,362 =$
- f. $120 \div 20 = -$

[Aswan - Korn Ombo 23]

	The quotient in o	opposite area mode: is		60 4		
y.	The quotient in opposite area mode: is			2.240 140		
				÷ 35 _ 2,100140		
				140 000		
				(El Monofia - Shiben El Kom 23)		
h.	The quotient of	54 ÷ 5 = 10 , then the r	emainder is	(Giza - Abo El Nomros 23)		
C	hoose the correct	answer.				
a.	The remainder in	n the equation 36 \div 9 =	= 4 is			
0	A. 36	B. 9	C. 4	D, zero		
ь	. A man bought 1	2 toys for 288 L.E. , thei	n the price of each toy	is L.E.		
0	A. 300	B. 24	C. 276	D. 42		
c	3,124 ÷ 3,124 = _					
0	A. 3,124	B. zero	C. 124	D. 1		
d	$1. \text{ If } 4.150 \div 29 = 14$			(Cairo – E. Nouzha 23)		
0	A. 4	B. 2	C. 1	D. 3		
ė	. The divisor in 36	÷7-5R1is		(Ismailia 23)		
0	A. 36	B, 7	C. 5	D. 1		
f.		then 35 × 24 + 5 =				
0	A. 840	B. 850	C. 845	D. 485		
		site area model to divi		100 2		
0	, then the value		1,	X 1,530 30		
	A. 1,530		B. 102	^ <u>1,500 – 30</u>		
	c. 30		D. 15	30 00		
	nswer the followi	ng questions.				
		3 2 "using the standa	rd algorithm"			
2						
0		to distribute 420 prize				
		es per each class?	es to / classes equally	[El Menia – Deir Mawas 23]		
-						
4	There were 29 oi	rls and 27 poys in a day	ss. The teacher asked t	them to work in groups of 8		
		ne there were ?		(Cairo - El Maro 23)		

How many groups there were?

(Cairo - El Marg 23)

THEME TWO

Mathematical Operations an Algebraic Thinking

FIND 5

Multiplication and Division with Decimals

- ► Concept 1 : Multiplying Decimals
- Concept 2:Dividing Decimals

Fast Fact

conjust to the setting the lings in office and of the control of t





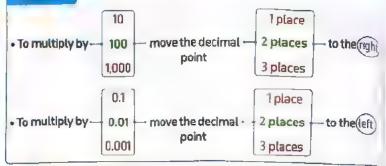


- Multiplying by Powers of Ten
- Multiplying Decimals by Whole Numbers
- Multiplying Tenths by Tenths

Learn 1

Multiplying by powers of ten

-Rules



190

Examples for multiplying by 10, 100 and 1,000

Hipt

You don't need to show a decimal point at the end of a whole number. Examples for multiplying by 0.1, 0.01 and 0.001

40-4

This decimal has 4 decimal places. It is a decimal at Ten-Thousandths.

Remarks

Sometimes you need to put one or more zeroes on the right (or on the left) of the number without changing its value.

For Example:

$$=3_{\circ}70_{\circ} \times 100 = 370$$

$$= 3.700 \times 1,000 = 3,700$$

$$=0.016_3 \times 0.001$$

In the whole numbers, consider the decimal point at the right of Ones place [as: 35., 645.]

For Example:

Notes for parents:

 Your child may be confused which direction to move the decimal point when multiplying decimal numbers.

Example 1

Find the result of each of the following.

b. 39 × 10 =	39 × 0.1 =
39 × 100 -	39 × 0.01 =
39 × 1,000 =	39 × 0.001 =



Solution 🕎

a.	75 ₆ 42 × 10 = 754.2	75 ₄₂ × 0,1 = 7.542
	75.42 × 100 = 7,542	0,75 ₀ 42 × 0.01 = 0.7542
	75 ₆ 420 × 1,900 = 75,420	0,075,42 × 0.001 = 0.07542

b.	39 ₀ 0 × 10 = 390	3.9 ₀ × 0.1 = 3.9
	39 ₀₀ ×100 = 3,900	0 ₃ 3% × 0.01 = 0.39
	39 ₀ 000 ₄ × 1,000 = 39,000	0,03% × 0.001 = 0.039

Note that 0.07542

- 4 is in the Ten
 Thousandths place.
- 2 is in the Hundred Thousandths place.

Check your understanding

Find the result of each of the following.

a. 57.32	×O	1 =
----------	----	-----

b. $0.0823 \times 1,000 =$

c. 18 × 0.001 = --

d, 0.524 × 10 = -

e. 5.3 × 0.01 = ---

f, 62×100=

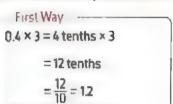
Make sure that your child put more zeroes if needed when multiplying by powers of ten.

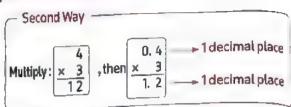
Learn 2

Multiplying decimals by whole numbers

How to evaluate: 0.4 × 3?

You can solve this problem in many ways as the following.





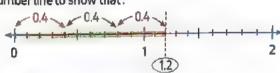
Third Way -

Use the rule of

The multiplication can be represented as repeated addition

So,
$$0.4 \times 3 = 0.4 + 0.4 + 0.4 = 1.2$$

You can use the number line to show that:





Example 2

Complete.

Solution 🕅

a. Since
$$5 \times 5 = 25$$

, then
$$0.5 \times 5 = 2.5$$

b. Since
$$5 \times 6 = 30$$

, then
$$0.5 \times 6 = 3.0 = 3$$

c. Since
$$35 \times 3 = 105$$

, then
$$3.5 \times 3 = 10.5$$

, then
$$0.45 \times 5 = 2.25$$

, then
$$0.015 \times 9 = 0.135$$

f. Since
$$415 \times 12 = 4,980$$

, then
$$4.15 \times 12 = 49.80 = 49.8$$



Notes for parents:

Tell your child that multiplying decimals by a whole number is the same as multiplying whole numbers.
 He/She need to place a decimal point in his/her answer

Example 3

Find the value of each letter in each of the following:

- a. $3,245.8 = 3 \times [A] + 2 \times [B] + 4(C) + 5 + 8(D)$
- b. $30,604.07 3 \times (A) + 6 \times (B) + 4 + 7 \times (C)$

Solution 🕎

- a. 3,245.8 = 3,000 + 200 + 40 + 5 + 0.8 [expanded form] = $3 \times [1,000] + 2 \times [100] + 4 \times [10] + 5 + 8 \times [0.1]$, then A = 1,000, B = 100, C = 10, D = 0.1
- b. 30,604.07 30,000 + 600 + 4 + 0.07= $3 \times [10,000] + 6 \times [100] + 4 + 7 \times [0.01]$, then A = 10,000 , B = 100 , C = 0.01



Check your understanding

Complete.

- a. 7.5×3= -
- c. 6.05 × 5 =
- e. 5.68 × 7 = ----

- 6. 7.5 × 6=----
- d. 0.74 × 9 = ----
- f. 7.2 × 12 = ----

Remind your child how he/she can write a decimal in expanded form.

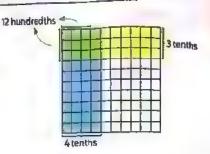
Learn 🚯

Multiplying tenths by tenths (with arrays)

Example: How to evaluate: 0.4 × 0.3?

- Use two different colors to create this model:
 - The first number (0.4) is represented by coloring 4 columns by blue.
 - The other number (0.3) is represented by coloring 3 rows by yellow.
 - Count the squares colored twice in the array you created that they are 12 squares = 12 hundredths

So, $0.4 \times 0.3 = 0.12$



Note that

Product of two numbers in the tenths place would have a product in the hundreaths place.

Example 4

Find each of the following using arrays.

a. 0.1×0.1

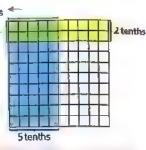
b. 0.5×0.2

Solution [V



1 hundredth 1 tenth 1 tenth $0.1 \times 0.1 = 0.01$

b. 10 hundredths



 $0.5 \times 0.2 = 0.10 = 0.1$

Notes for parents:

Let your child use models to represent 0.7 × 0.6

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EXERCISE

on lessons 1 to

- Multiplying by Powers of Ten
- Multiplying Decimals by Whole Numbers
- Multiplying Fenths by Tenths

REMEMBER JNDERSTAND

OMPHY

A PROBLEM SOLVING

🔙 From the school book

1. Complete.

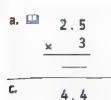
p.
$$42.5 \times 0.001 = ---$$



Multiply to complete the table.

×	3	30	300
0.901	a	g	m
0.01	b	h	n
0.1	C	i	0
1	d	j	р
10	e	k	q
100	f	L	r

3. Find each of the following.



b. 🕮 0.35 d. 0.65





4. Complete each table.

- 14.96 × 1.000 =
 - 14.96 × 100 =
 - 14.96 × 10 =
 - 14.96 × 1= 14.96 × 0.1 =
 - 14.96 × 0.01 =
 - 14.96 × 0.001= ---

- b. (23) 25 × 1,000 =
 - 25 × 100 =
 - 25 × 10 =
 - 25×1=
 - 25 × 0.1 =
 - 25 × 0.01=
 - 25 × 0.001 =
- c. 5.7 × 1,000 = ---5.7 × 100 = ---5.7 × 10 = -5.7×1=- $5.7 \times 0.1 = -$
 - 5./ × 0.01= -5.7 × 0.001 = ---

By using the number line evaluate each of the following.

- a. 0.3×3
- b. 0.3 × 4

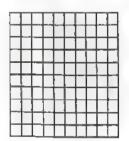


- c. 0.3×5



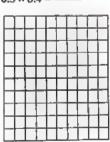
6. We the base 10 grids to find the products.

a. 0.1 × 0.1 = ----

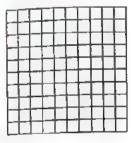


b.

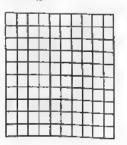




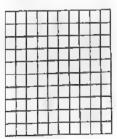
 $0.5 \times 0.2 = -$



d. $0.9 \times 0.5 = -$

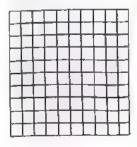


 $0.7 \times 0.8 = -$



 $0.5 \times 0.6 = -$

f.



7.	Find the	unknown	letters in	each of	the	following.
----	----------	---------	------------	---------	-----	------------

- a. $\square 496 = 4 \times [A] + 9 \times [B] + 6$
- b. (1) $6,140 = 6 \times (C) + 1 \times (D) + 4 \times (E)$
- c. \square 20,403 = 2 × (F) + 4 × (G) +3
- **d.** (1) 78,594 = 7 × (H) + 8 × (1) + 5 × (1) + 9 × (K) + 4
- e. (1) 8,032 × 1,000 = (L)
- $q. 4.005 = 4 + 5 \times (P)$

- f. $54.29 = 5 \times (M) + 4 + 2 \times (N) + 9 \times (O)$
- h. $305.09 = 3 \times [Q] + 5 + 9 \times (R)$

8. Put the suitable relation (< or = or >).

- a. 4.72 × 10
- 0.472×100
- c. 72.15 × 10
- 0.07215×1.000 0.24×100
- e. 2.4 × 10 g. 3.251 × 100
- 325.1×100
- b. 4.4×0.1
 - 0.044×10
- $d. 5 \times 0.001$
- 60.8×10 f. 6.08 × 1,000
- h. 9.15 × 100
- 91.5 × 100

 0.05×0.01

9. Complete.

- a. 25.69 × ------ 256.9
- c. × 2.54 = 0.254
- e. 2.63 × ----= = 2,630
- g. 55.423 × == 5,542.3
- 1. _____x10 = 29.4
- **k.** $[72.12 + 2.7] \times 10 = -$

- b. 4.321 × ---- = 4,321
- d. $7.5 \times = 750$
- f. 620.1 × = 0.6201
- h. 0.021 × ---- = 21
- i. ———× 100 = 25.5
- $(. (72.5 63.721) \times 1,000 = -$

10. If $326 \times 7 = 2.282$ and $37 \times 52 = 1.924$, then complete the following without multiplying.

- a. 3.26 × 7 = ____
- b. $0.0326 \times 7 = -$
- c. $32.6 \times 7 = -$

- d. 3.7 × 52 = ----
- e. 0.37 × 52 = ---
- f. $0.326 \times 7 = -$

- g. 0.0037×52= ---
- h. 37×5.2=---
- i. 0.00326×7=----

Multiple Choice Questions

Choose the correct answer.

1.	0.067 × 1.000 =		2. 98.7 × 100 =	<u> </u>
	A. 6.7	B. 67	A. 987	B. 9,870
	C. 0.067	D, 670	C. 0.987	D. 0.0987
3.	85.3 × 0.01 =	(Cairo El Sherouk 23)	4. $35.2 \times \frac{1}{10} =$	(Giza - El Agouza 23
0	A. 853	B. 8.53	A. 35.20	B. 35.02
	C . 0.853	D. 85.03	C. 3.52	D. 30.52
5.	2 Thousandths	×4=	6. 3×2 Hundredt	hs = _
	A. 8	B, 0.8	A. 600	B. 0.6
	C. 0.08	D. 0.008	C. 0.06	D . 0.006
	(Carro - El Nouzha	23, Grza - Math inspection 23]		
	100 ×	= 4.4	8, 52,25 =	- × 0.1
6	A. 0.44	B. 44	A. 0.5225	B . 5.225
	C. 440	D. 0.044	C. 522.5	D. 5,225
9.	2.51×	= 0.251 [ElMenofia - Tala 23]	10. 2.5×3=	
C	A. 0.1	B. 0.01	A. 75	B. 7.5
	c. 0.001	D. 10	C. 0.75	D . 0.075
- 11.	0.003 × 1,000	30,000 × 0.001	12. 0.1×0.1= —	[Giza - Abo El Nomrots 23]
0			A. 0.03	, B. 0.02
	A. >	B. < C. =	C. 0.01	D. 0.2
13.	6.237 × 100 ≈ −		14. [2.35×10] – 11.1	=
0		ne nearest whole number]	A. 223.9	B. 23.5
	A. 6,237	B. 62	C. 12.4	D. 2.4

B. 62 **D**. 623

C. 624



 Multiply Decimals Using the Area of a Rectangle Model

Learn 1 Using multiplication patterns

$$9 \times 4 = 36$$

So, 9 × 400 = 3,600	0.9 × 4 = 3.6	$0.09 \times 4 = 0.36$
$90 \times 40 = 3,600$	9 × 0.4 = 3.6	$0.09 \times 0.4 - 0.036$
$9 \times 40 = 360$	0.9 × 0.4 = 0.36	$0.9 \times 0.04 = 0.036$
90 × 4 = 360	9 × 0.04 = 0.36	$0.09 \times 0.04 = 0.0036$

Note that

The number of zeroes (or decimal places) in the product must be the sum of the numbers of zeroes [or decimal places] in both initial numbers.

Example 1

Complete each of the following.

- - 1. 2.6 × 5.9 =
 - 2. 0.26 × 5.9 = ----
 - 3. 0.26 × 0.59 = ---
 - 4. $26 \times 0.059 = -$
- a. Given that: 26 × 59 = 1,534, then b. Given that: 271 × 35 = 9,485, then
 - 1, 27.1 × 35 = _____
 - 2, 27.1 × 3.5 = ----
 - 3. 2./1 × 3.5 = ___
 - 4. 0.271 × 3.5 = -

Solution [V]

- a. 1. 15.34
- 2. 1.534
- 3. 0.1534
- 4. 1.534

- b. 1. 948.5
- 2 94.85
- 3, 9,485
- 4. 0.9485

Meheck your understanding

Complete:

Given that: $12 \times 13 = 156$, then

- 1. 120 × 13 = ---- | 2. 1.2 × 1.3 = -
- 4. 1,2 × 13 = _____ | 5. 12 × 0.13 =
- 3. $0.12 \times 1.3 = -$ 6. $1.2 \times 0.13 =$

- 8. D.12 × 13 = -
- 9. 0.12 × 0.13 =

Notes for parents:

 Let your child count zeroes in the product and compare with the sum of the numbers of zeroes in the two factors. 199

Learn 2 How to use the area model to multiply decimals?

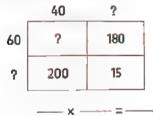
Example: How to evaluate: 1.4 × 7.8?



Example: How to evaluate: 38.2 × 0.51?

Example 2

Find the missing number in each of the following area models, write the problem, then find the product.



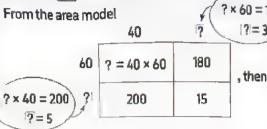
Notes for parents :

· Remind your child how he/she multiply two whole numbers.

200

Solution [💎]

a. From the area model



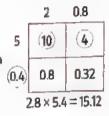
: 60 = 180 \					
[?i=3	\mathcal{I}	40	3		
then	60	2,400	180		
, then	5	200	15		

 $43 \times 65 = 2,795$

	2,	4	0	0
+		2	0	Û
+		1	8	0
+			1	5
	2.	7	9	5

1		-	
13	x 2=	8.0	1

	2	8.0	
5	?]=2×5	? = 5 × 0.8	l l th
ź	0.8	0.32	, 4



	10			
+	4			
+	0.	8		
+	0.	3	2	
	15.	1	2	

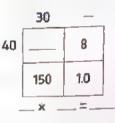


your understanding

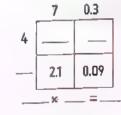
Use the area model to complete each of the following.

- a. 2.5 × 8.6 = -
- **b.** $8.2 \times 0.53 = -$
- e. 41.6 × 0.25 =

d		
м	Ħ	



e.



Let your child use palce value to decompose each factor into its parts.

· Multiply Disalmais USing the Assector a Rectangle Model

PROBLEM SOLVING

From the school book

 Look for patterns in each set of problems. Use the patterns to complete the unanswered problems.

$$a. = 180 \times 3 = 240$$

$$c.157 \times 56 = 8,792$$

$$8 \times 30 = 240$$

$$7 \times 6 = 42$$

 $0.08 \times 0.3 = -$

$$0.08 \times 0.03 = ---$$

2. Use an area model to complete each of the following.







(Aswan 23)

g. 🕮 29.3 × 0.34 = ----

- Z F 1.12	

h. 💷 3.55 × 0.75 =

į.	<u> 18.2</u>	× 2.8	= _	
----	--------------	-------	-----	--

3. Look at the area models. Some of the numbers are missing. Use the information provided to fill in the blanks. Write the problem, and then find the product.

a. (20 8) 50 1,000 ? ? 80 32

b	?	6
60	1,200	360
?	80	24
_		

Produact: ----

Product:

c. 30 4 50 1,500 200 ? 60 ?

d. 🕮	?	?	5
30	12,000	600	150
?	1,600	80	?

Product: ---

Product: ----

0,	40		7	f.	30	4	?
80	3,200		560	3	180	?	1.8
? '	120	į	21	0.4	12	?	0.12
P	roduct: -			Р	roduct:		
g.	?	7	0.3	h.	4	?	?
7	350	35	3	10	?	3	0.7
0.2	10	1	?	?	16	1.2	0.28
р	roduct: -			P	roduct :		

4. Complete.

- a. Since 38 × 47 = 1,786, then 0.38 × 4.7 = ----
- b. Since 11.3 × 4.5 = 50.85, then 1.13 × 45 =
- •
- c. In the opposite area model , the value of $\kappa + X = -$
- **d.** From the opposite area model, the value of m + n = -

		2	0.7	
6		k	m	
X		n	0.28	
		1_	0.3	k
	X	3	m	0.21

0.15

0.035

5.	🕮 Malak works for a construction company. The company had 12 pallets of cinder blocks
66	delivered for a building project. Each pallet weighed 1.36 metric tons.

Help Malak revise and complete the area model to figure out how much the cinder blocks weighed all together.

	1	0.3	0.06
10	10	30	6
2	2	6	12

Multiple Choice Questions

Choose the correct answer.

- 1. 3×2Thousandths = Thousandths B. 6 A 5 C. 32
 - D. 23 (Port Said 23)
- 3 Tenths × 4 Tenths =
 - A. 12 Tenths
- B. 12 Hundredths
- D. 12 Ones C. 12 Thousandths
 - [El Beheira 23]

- 3. The product $0.9 \times 5 = ...$
 - A. 0.45 C. 5.4
- B. 4.5
- D. 45
- 4. 4.3 × 3.4 =
 - A. 14 C. 14.62
- B. 14.02 D. 12.62

- (El Beheira Housh Essa 23)
- 5. 2.85 × 4.1 = --
 - A. 11.085 C. 11685
- B. 10.685
- D. 12
- 6. 3.1 × 1.1 = A. 34.1

C. 0.341

[El Monofia - Tala 23] B. 341

D. 3.41

- 7. Since $35 \times 47 = 1,645$
 - , then $3.5 \times 0.47 = -$ A. 164.5
- B. 16.45
- D. 1.645 C. 1.645
 - (Cairo El Nouzha 23)
- Since 7.5 × 4.3 = 32.25
 - , then $75 \times 0.43 = -$
 - A. 3.225
- **B.** 32.25
- C. 322.5
- **D.** 0.3225

- Since 9 × 3 = 27
 - , then $0.09 \times 0.3 =$
 - A. 0.27 C. 2.7
- B. 0.027
- D. 0.0027
- 10. From the area model, m = 0.3 0.6 2 8 0.5 0.15
 - A. 20
- B, 0.02
- C. 0.2
- D. 2
- (El Monofia Shiben El Kom 23)

- 11. If the area model of a problem is
 - 0.2 3 8.0 0.7 2.1
 - , then x + y =
 - A. 12
- B. 12.14
- C. 15
- D. 15.04

- 12. If the area model of a problem is
 - 0.8 15 k 0.24
 - ,then L+m=-
 - A. 3
- **B.** 3.3
- C. 15.24
- D. 2014



- Multiplying Decimals through the Hundredth Place
- Multiplying Decimals through the Thousandth Place

Learn

How to multiply two decimals ?

Just follow these steps:

- 📵 Ignore the decimal point in each of the two numbers, in order to obtain two whole numbers.
- Multiply the two whole numbers that you obtained by using standard algorithm or area model.
- Add the number of decimal places in both initial numbers.
- Place the decimal point in the product found in step 2. The number of decimal places in the product must be the sum of the numbers of decimal places in both in tral numbers.

For Example:

To multiply: 2.45×0.7 , you can follow the following steps:

- 1. Ignore the decimal point to obtain two whole numbers 245 and 7
- Multiply the two whole numbers: |

245 × 7 = 1.715

 $2.45 \Rightarrow 2$ decimal places

 $0.7 \Rightarrow 1 \text{ decimal place}$ 1. 7 1 5 ⇒ 3 dec mal places

3. Add the number of decimal places in both initial numbers: 2+1=3

4. Place the decimal point in the product: 1.715

Example 1

Multiply.

a. 0.46 × 0.9

 $c. 0.02 \times 0.4$

b. 21.9 × 4.8

d. 8.124×0.47

Notes for parents :

· Explain that the product should have as many decimal places as the sum of the decimal places in the factors.

Solution 🕎

You can multiply decimals directly as follows:

a. $0.46 \Rightarrow 2$ decimal places

x 0.9 ⇒ 1 decimal place 0.4 1.4 ⇒ 3 decimal places b. 21,9⇒1decimal place
 ★ 4.8⇒1decimal place

1.752

+ 8,760 105,12 ⇒ 2 decimal places

c. 0,02 → 2 decimal places

x 0.4 ⇒ 1 decimal place
n 0.08 ⇒ 3 decimal places

Notice -

We insert 2 zeroes to the left of 8 to make 3 decimal places. d. $8.124 \Rightarrow 3$ decimal places $0.47 \Rightarrow 2$ decimal places

56,868

+ 324,960 3,81828 ⇒ 5 decimal places

Example 2

If the correct product of the problem 174 \times 68 \pm 118.32 has been given without multiplying, place the decimal point correctly in one or both factors.

Solution 💎

Since the decimal point of the product after 2 decimal places, then the sum of numbers of decimal places in both factors equals 2 decimal places as 17.4×6.8 or 1.74×6.8 or 1.74×6.8

Note that

There are more than one correct answer is possible.

Vicheck

check your understanding

Multiply:

a. 0.62 × 5.3

b. 2.734 × 0.39

 Let your child find the sum of decimal places in the factors and put the decimal point in the product to match this number.



on lessons Sa6

Multiplying Decimals through the Hundredth Place

Multiplying Desimals through the Thousands

REMEMBER

• UNGERSTAND

OAFFE

🚣 PROBLEM SOLVING

From the school book

1. Place the decimal point in the product, you may have to write zeroes in the product,

a.
$$1.2 \times 2.4 = 288$$

g.
$$\square$$
 15.4 × 0.49 = 7546

1.
$$3.14 \times 0.05 = 1570$$

b.
$$\Box$$
 5.8 × 7.4 = 4292

d.
$$0.09 \times 0.3 = 27$$

 The correct product for each problem has been given. Without multiplying, use reasoning to place the decimal point correctly in one or both factors. More than one correct answer is possible.

b.
$$532 \times 17 = 9.044$$

d.
$$18 \times 145 = 261$$

3. Find the product for each multiplication problem using the standard algorithm.

UNIT	5	CONCEPT	1

8. 1 0 8 × 0. 4 5 +	j.	k. 1. 9 +	8.375 × 20 + ———
m. 1 5, 3 2 8 × 7, 9 +	n. 6. 4 6 1 × 0. 2 8 +	o. (a) 8. 9 2 x 0. 1 7 +	p.
Compare the product	s of the following by p	utting $(<,>$ or $=$).	

4.	Compare the	products	of	the	following	by	putting	(<,>	or =	:).
----	-------------	----------	----	-----	-----------	----	---------	------	------	------

a. 0.318 × 1.5	\bigcirc	3.18 × 0.15	
c. 13.6×0.4		0.136 × 0.4	

d. 7.3 × 0.28 0.73 × 2.

 0.172×0.3

5.	Solve the problem	7.184 X	6.3 by two	different ways	by using.

1	

b. Standard algorithm	m.
-----------------------	----

Multiple Choice Questions

Choose the correct answer.

1	0 676 × 0.4 =			2.	The decimal	point in the	e product of
	A. 0.27	В.	0.3068		3.9 × 4.25 is a	fter	place(s).
	C. 2.704	Đ.	0.2704	1	A. 1	В	. 2
					C. 3	D	. 4
3.	8.43 × 0.9 ≈				9,13 × 3.5	91.3 × 0.	35
,	(te	the neare	st Hundredths)	0	A. >	В.	. <
	A. 7.5	8.	75 9		C. =	D.	. otherwise
	C. 7.58	D.	7588				(Ismailia 23)
5.	2.7 × 0.0099 =			6.	0.025 × 0 04 =	=	
	A. 0.002672	8.	0.02672	0	A. D 01	B.	0.001
	C. 0.02673	D.	0.2673		C. 0.0001	D.	0.00001
	4.012 × 5.6 = _			8.	4.325 × 2.3 = -		
0		(to the	nearest Tenths)	0	A. 9.9475	В.	9.9745
	A 22	4	22.5		C. 9.95	D.	13.84
	C. 22.47	***	22.467				
9.	0.15 × 39.8	1,5 × 0.3		10.	0.2 × 0.631=		
0	A. >	B. <	c. =	0	A. 1.262	Ð.	0.1262
	***		-		C. 0.01262	D.	0 001261





- Decimals and the Metric System
- Measurement, Decimals and Powers of Ten

Learn

Metric units of length

Metric units of length are meter (m), centimeter (cm), millimeter (mm) and kilometer (km)



An ant is about 3 millimeters



A pencil is about 20 centimeters

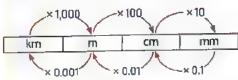


The length of a class is about



The distance between Cairo and Alexandria is about 248 kilometers

Converting metric units of length:



Unit of Measurement	In Millimeters	In Centimeters	In Meters
Millimeter	1	0.1	0.001
Centimeter	10	1	0.01
Meter	1,000	100	1

For Example:

- 7.54 m = 7.54 × 100 cm = 754 cm
- 14.16 mm = 14.16 × 0.1 cm = 1.416 cm
- 255 2 cm = 255.2 × 0.01 m = 2.552 m
- 4,620 m = 4,620 × 0.001 km = 4.62 km

Notes for parents:

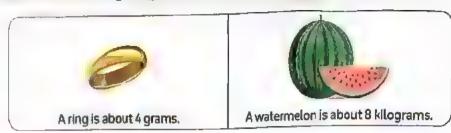
 Your child relate the metric system to the place value system and use decimals to represent equivalent measurements.

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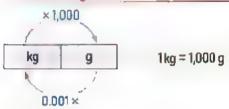


Metric units of mass

Metric units of mass are gram (g) and kilogram (kg)



Converting metric units of mass:



Unit of Measurement	In Grams	in Kilograms
Gram	1	0.001
Kilogram	1,000	1

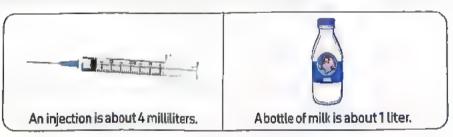
For Example

- $4.56 \text{ kg} = 4.56 \times 1,000 \text{ gm} = 4,560 \text{ g}$
- 2 kg 500 gm = 2 × 1,000 gm 500 gm
- $567 \, \text{gm} = 567 \times 0.001 \, \text{kg} = 0.567 \, \text{kg}$

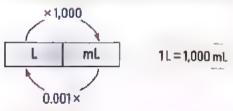
 $= 2,000 \, \text{gm} - 500 \, \text{gm} = 1,500 \, \text{gm}$

Metric units of capacity

Metric units of capacity are liter (L) and milliliter (mL)



· Converting metric units of capacity:



Unit of Measurement	In Milliliters	In Liters
Milliliter	1	0.001
Liter	1,000	1

For Example:

- 12.4 mL = 12.4 × 0.001 L = 0.0124 L
- 4.25 L = 4.25 × 1,000 mL = 4,250 mL
- \bullet 3.4 L 1,700 mL = 3.4 L 1,700 \times 0.001 L
 - =3.4L-1.7L=1.7L

Notes for parents :

 Explain that, like our place value system, relationship in the metric system are based on 10, 100, and 1,000, also known as powers of 10.

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Example 1

Complete each of the following.

- a. 17.3 mm = -----
- c. 45.8 cm = --
- e. 0.08 kg = ---
- g. 0.043 L = ----

- **b.** 4.17 km = ----- m
- d. 0.15 m = ---
- t. 540 g = ----- kg
- h. $7,800 \, \text{mL} = -$

Solution [7]

- a. $17.3 \text{ mm} = 17.3 \times 0.1 \text{ cm} = 1.73 \text{ cm}$
- c_{c} 45.8 cm = 45.8 × 0.01 m = 0.458 m
- e. $0.08 \text{ kg} = 0.08 \times 1,000 \text{ g} = 80 \text{ g}$
- $q_{\star} = 0.043 L = 0.043 \times 1,000 mL = 43 mL$
- b. $4.17 \, \text{km} 4.17 \times 1,000 \, \text{m} = 4,170 \, \text{m}$
- d. $0.15 \text{ m} = 0.15 \times 1.000 \text{ mm} = 150 \text{ mm}$
- f. $540 q = 540 \times 0.001 kg = 0.54 kg$
- h. 7,800 ml. = 7,800 × 0.001 L = 78 L

Example 2

Compare, write (>, < or =) for each

- a. 50 mL 0.05 L
- 4.2 m c. 2,400 mm

- **b.** 0.7 kg
- d. 350 cm

Colution [V]

- a. Since $50 \text{ mL} = 50 \times 0.001 \text{ L} = 0.05 \text{ L}$
- **b.** Since $0.7 \text{ kg} = 0.7 \times 1,000 \text{ g} = 700 \text{ g}$
- c. 5ince 2,400 mm = 2,400 × 0.001 m = 2.4 m
- **d.** Since 350 cm = 350 \times 0.01 m = 3.5 m

$So,50 \, mL = 0.05 \, L$

- 5o,0./kg = 700 g ≥ 697 g
- $So. 2.400 \, \text{mm} = 2.4 \, \text{m} \ll 4.2 \, \text{m}$
- 50,350 cm = 3.5 m 🗦 3.4 m

Check your understanding

Complete.

- a. 4.007 km = ---- m
- c. 452 cm = _____ m
- e. 2.7L= ---- m₋
- g. 2,73 kg = ---- g

- b. 6,750 mL=----L
- **d.** 40 g = ----- kg
- f. 4.21 m = ____ cm
- h. 2.5 L-500 mL=---- mL

Explain that since metric measurements are related through powers of 10, it is possible to write measurements using decimals

Exercise

- Desimals and the Metric System
- Measurement Decimals and Powers of

_	-			5-	-	256	r	н
•	₽.	L.	14	Į.	m	ж	ŀ	
-	м	٦.	77	ĸ.	100	w	ъ	а

PROBLEM SOLVING

.... From the school bore

 Select the most appropriate unit of measurement from the given terms to measure to length of each object.

> kllometers millimeters centimeters meters

- a. Pencil: Unit of measure ---
- b. Height of building : Unit of measure
- c. Length of dinner table: Unit of measure
- d. Length of the Nile River: Unit of measure
- e. Length of insect: Unit of measure

2. Complete.

n. 7,400 mL = 7,400 ×
$$=$$
 L = $=$ [to the nearest liters]



r. 15.6 kg
$$\pm 2,600$$
 g $\equiv -----$ kg



d. 24 mm

h. 0.01 km

£ 7.1 L

a. 2,180 cm (

c. 5 mL

g. 8 g

e. 0,088 m

2.18 m

0.005 L

8.7 mm

0,08 kg

Scanned with CamScanner

0.24 cm

715 mL

215

7 m

5. Order each of the following from least to !	5	Order	each of	the f	Privollo	from	least to	greatest
--	---	-------	---------	-------	----------	------	----------	----------

- a. 0.75 kg , 570 g , 0.8 kg , 790 g , 0.762 kg
- b. 0.32 m , 300 mm , 31 cm , 0,315 m , 319 mm
- c. 400.2 mL , 0.35L , 427 mL , 0.3L , 0.42 L

6. ...! Study each problem. In each problem, mark whether the multiplication given to complete the conversion is correct. Select Y for yes and N for no. Then, complete all conversions by filling in each blank with the equivalent measurement (even if the conversion is incorrect).

	_		
a. 0,007 kg = g 0.007 × 1,000 Y/N	b. 51 mm =cm 51 × 10 Y/N	c. 230 cm =	d. 4,800 mL = -L 4,800 × 0.1 Y/N
e. 4 cm = m 4 × 0.01 Y/N	f. 500 mL =	g. 5.67 m =	h. 782 mm =
i. 1.5 m = cm 1.5 × 0.01 Y/N	j. 6,410 cm =	k. 6,410 m =	L 350 cm = m 350 × 0.01 Y/N
m. 0.8 cm =	n. 10.3 m =	o. 9,320 mm =	p. 9,320 cm = m 9,320 × 0.01 Y/N

7. In There are two categories of weightlifting: The Snatch and the Clean and Jerk. World Champion Egyptian weightlifter Mohamed Ehab wants to compare his personal best in these two categories. In the Snatch, he was able to lift 1/3 kilograms. He was able to lift 201,000 grams in the Clean and Jerk. Use multiplication and powers of 10 to explain which measurement is greater.

Yousra is a veterinarian. She needs to weigh a cat to see if it is healthy
 Yousra records that the cat weighs 3.648 kilograms. Her assistant records that the cat weighs 3,648.0 grams.

Do you agree with Yousra or her assistant? Why?

Multiple Choice Questions

choose the correct answer.

1. 0	40 g 0.041 A. > C. =	«g B. <	2. Which of the fo A. 2,700 mm C. 0.002 km	B.	the greatest? 3 m 285,8 cm
3.	5.6 cm ≃ — m A. 56 C. 560	m B. 0.56 D. 5,600	4. 4.7 mL = 8 A. 0.047 C. 4,700		0.47 0.0047
5. @	3.5 L – 1,500 mL = A. 2 C. 200	t B. 20 D. 2,000 [Ismailia 23]	6. 1.62 m A. > C. =	1,619 mm B	. <
7.	4.61 m = cn A. 46.1 C. 4,610	n B. 461 D. 46,100	8. 18.14 mm = Ø A. 0.1814 C. 1.814	В.	181.4 1,814
9.	14.12 kg — 100 g = — A. 14.012 C. 14.02	kg B. 1,412 D. 141.2	10. 740 m = — • A. 7.4 C. 7,400		0.74 74
11.	Amgad is a weigh	ntlifter. He needs to dr vater does he need? S	ink about 4,230 millilit Select the multiplication	ers of wate	er every day. In that could be

used to answer the question.

B. 4,230 × 0.01 **D.** 4,230 × 0.001

A. 4,230 × 1000

C. 4,230 × 100 D. 4,230 ×

12. Ayaran a 5 kilometers race, How many meters d d she run? (Aswan 23)
A, 50 B, 500 C, 5,000 D, 0,005

There are publishers in 18 liters (Giza - Awseem 23, Cairo Al Khalifa and Al Mokattam 2

13. There are _____ milliliters in 18 liters. [Giza - Awseem 23, Cairo Al Khalifa and Al Mokattam 23]

A. 18 B. 180 C. 1,800 D. 18,000





How to solve multistep story problems?



Read to understand

- Read the story loudly more than one time carefully.
- Identify the details and quantities given.
- Identify the hidden question (if exists).
- · Search for key words.



Plane

- Decide the operation (+, +, ×, ÷).
- Decide the strategy you can use to solve the problem.



Sôlve

- · Solve the hidden question (if exists).
- How can you use the strategy to solve the problem?



Check

- How do you know your answer is carrect?
- What other strategy could you use to solve the problem?



Read to understand















Example 1

Amira went to the supermarket, she bought 1.5 kg of tomato, 875 g of peas, 0.09 kg of spices and 2,750 g of cucumber. Find the weight (in grams) of what Amira bought,

Notes for parents:

 Remind your child that multistep problem is a problem that involves more than one operation.

Solution 🕎

This example wants to find the weight (in grams)
So, we convert each kilogram
into gram before adding.
1,5 kg tomato = 1.5 × 1,000 g = 1,500 g
0.09 kg spices = 0.09 × 1,000 g = 90 g

So, the total weight = 1,500 + 875 + 90 + 2,750 = 5,215 g

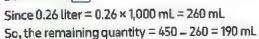
Notice that

If you convert to grams, you would Use more whole numbers, meaning the calculations would involve larger numbers. If you convert to kilograms, you would use more decimals. No matter to what unit you convert, the sum is the same but given in different units.

Example 2

Sandy bought 450 mL of mango juice. Her sister Marvina drank 0.26 liter. What is the remaining quantity of the mango juice?

Colution [7]





Example 3

A trousers factory needs 1.12 m of fabric to produce one trousers. If the factory plans to produce 48 trousers and the fabric roll contains 2,000 cm. of fabric, how many rolls does the factory need? And how long is the remaining part?

Solution [V]

The fabric needed to make 48 trousers = 48×1.12 m = 53.76 m Each fabric roll contains 2,000 cm = $2,000 \times 0.01$ m = 20 m Since $[20 \times 2 < 53.76 < 20 \times 3]$ So, the number of rolls needed = 3 rolls The length of fabric in 3 rolls = $3 \times 20 = 60$ m

The remaining part = 60 - 53.76 = 6.24 m



Check your understanding

Youssef wants to know how much he has grown this year. In January, he was 141.8 cm
By the end of the year, he was 1.6 meters tall. How much did Youssef grow this year?

Ask your child what strategy he/she decided to use, and why he/she chose it.

ilems

🚣 PROBLEM SOLVING

From the school book

23	➤ Solving Multistep Story Pro
_	

REMEMBER

1.	If the heights of Nada, Habiba and Sara are 1.22 m, 124 cm and 1,230 mm
	, what is the total of their heights?

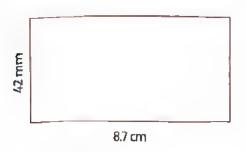
- 2. If Nader's weight at the beginning of a year is 34.1 kg and his weight at the end of the same year is 32,460 g, how much weight did Nader lose?
- Mohamed bought 12 bottles of orange juice each contains 640 mL. Ibrahim bought 7 bottles of mango juice each contains $\frac{1}{2}$ liter. How many liters do they have together?
- 4. The tength of a fabric roll is 4.56 m. A piece of length 114 cm is taken to make a blouse and another piece of length 980 mm to make a skirt. How .ong is the remaining part?
- 5. 🕮 Marwan is a computer engineer. The computer he is repairing is currently in three pieces that have a mass of 2 kilograms, 600 grams and 0.03 kg. His manager is waiting for the last piece, which has a mass of 1,750 g to arrive. What will the mass of the computer be when it is completely assembled?
- Annia is a nurse in a hospital. She is getting wrap bandages from the storage closet for her patients. She needs 1.35 meters of bandages for each of her 4 patients. There are 250 centimeters in each package. How many packages does she need? How many, if any, wil. be left over?
- 🕮 Dalia made a liter of sugarcane juice. She drank 320 mil. iliters. Her father drank 0.25 liters. How much sugar cane juice is remaining?
- 8. 💷 a. Ehab wants to know how much he has grown this year. In January, he was 138.2 centimeters. By the end of the year, he was 1.5 meters tall. How much did Ehab grow this year?

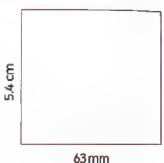
b. Ehab's twin sister Eman also wants to know how much she grew. In January, she was
 1.34 meters. At the end of the year, she was 145 centimeters.

Who grew more, Ehab or Eman?

How much more?

9. The dimensions of the two rectangles are shown in the following figures.





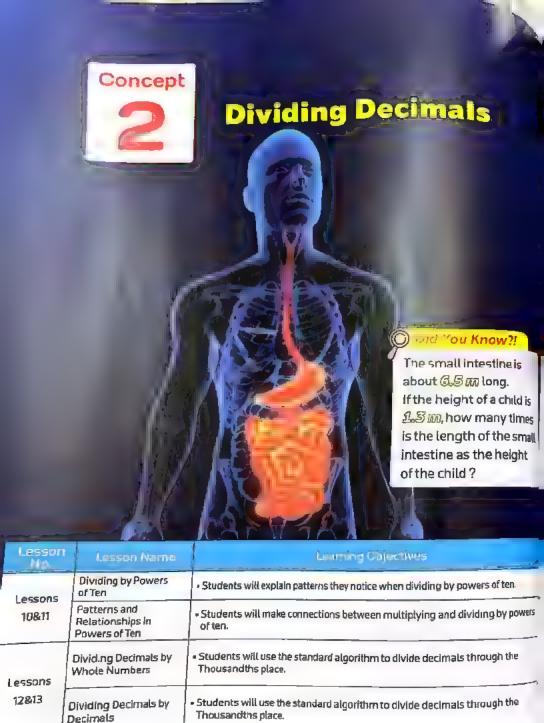
Find:

- a. The difference in perimeter of the two rectangles.
- b. The difference in area of the two rectangles.

10.
Marwan is designing a new circuit board for the computer he is repairing. The old circuit board measured 7.25 centimeters by 36 m llimeters. He planned for the new circuit board to be 80 mm by 5.5 cm.

What is the difference in area of the circuit boards?







- Dividing by Powers of Ten
- Patterns and Relationships in Powers of Ten

Learn 1 How to divide a number by powers of 10

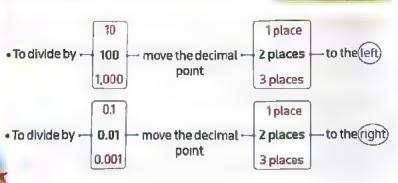
Aschool has 350 pupils distributed among 10 calsses.

How many pupils are in each class?

Numbers of pupils in each class = 350 ÷ 10
 = 35 pupils

How do you divide a number by a power of 10?





For Example:

$$-14_{\odot}36 + 10 = 1.436$$

•
$$0.05 \times 87 \div 100 = 0.0587$$

•
$$0_{0}0063 \div 0.001 = 6.3$$

Move the decimal point to the left

Move the decimal point to the right

Notice

It is possible to put zeroes on the left of the whole part or zeroes on the right of the last digit of the decimal part without changing value of the number.

For Example:

- 000235.36000
- * 000736.0000

Notes for parents :

 Remind your child that when dividing by 10,100, or 1,000, move the decimal point one place to the left for each zero in the divisor

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Example 1

Find the result of each of the following.

Solution 🕅 👚

a.
$$745.36 \div 100 = 7.4536$$

c.
$$2385_{-0.01} \div 0.01 = 238,500$$

e.
$$7_{\odot}3_{1}89 \div 0.1 = 7389$$

f.
$$8_0300 \div 0.001 - 8,300$$



Visitesk your understanding

Find each of the following.



Notes for parents:

Remind your child that he/she may need to insert zeroes. For example, 6.87 + 100 = 0.0687.



Learn 2 Dividing and multiplying by the powers of ten

For Example:

•
$$235_{0}87 \div 0.1 = 2.358.7$$
 , $235_{0}87 \times 10 = 2.358.7$

÷ 0.01 DEN × 100

For Example:

1,000

+0.1 TO ×10

Example 2

Solve the following problems, then draw lines between problems with the same answer.

$$785.6 \times 1,000$$

Make sure that your child understand that dividing by 0.1, 0.01, or 0.001 is equivalent to multiplying by 10, 100, or 1,000

Solution [V]



$785.6 \times 100 = 78,560$

785.6 × 0.1 = 78.56

$$785.6 \times 0.01 = 7.856$$

 $785.6 \times 0.001 = 0.7856$

Example 3

Complete each of the following.

Solution 🕅



$$g. 45.38 \times 01 = 4.538$$

b.
$$56 \times 0.001 = 0.056$$

d.
$$83.67 \times 100 = 8,367$$

f.
$$34.56 \div 0.01 = 3,456$$



Check your understanding

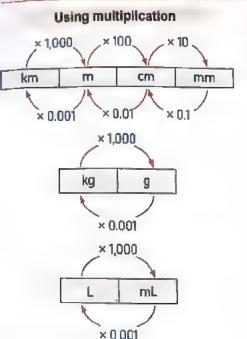
Use multiplication to find the same result of each of the following.

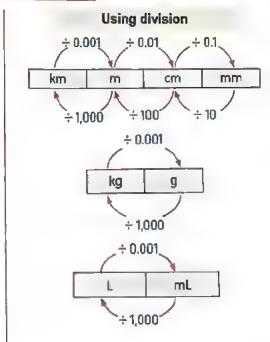
Notes for parents:

 Ask your child to explain when it is important to insert zeroes when moving the decimal point to the left or to the right.

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Metric conversions with Multiplication and Division





Example 4

Complete each conversion, then write a multiplication equation and a division equation with the same answer.

Solution [V]

b.
$$700 \text{ g} = 0.7 \text{ kg}$$

 $700 \times 0.001 = 0.7$
 $700 \div 1,000 = 0.7$

Vicheck your understanding

Complete using multiplication and division to get the same result.

 Ask your child to explain when he/she multiply or divide to convert from larger unit to smaller unit, and from smaller unit to larger one.

Dividing by Powers of Ten

Parsons and Relegionships in Rosenson in

• UNDERSTAND OAPPLY & PROBLEM SOLVING

From the school book

1. Find each of the following.

Find quotient of each of the following.

k.
$$\square 0.4 \div 0.001 =$$

3. Complete.

f.
$$-----+100 = 2.5$$

4. 🗇 Solve the following problems, then draw lines between problems with the same answer.

 $510.05 \times 0.001 =$

510.05 × 0.01 = -

 $510.05 \times 0.1 = -$

 $510.05 \times 10 =$

510.05 × 100 = 510 05 × 1,000 = 510.05 ÷ 0.001 = ---

510.05 ÷ 0.01 =

 $510.05 \div 0.1 = -$

510.05 ÷ 10 =

510.05 ÷ 100 =

 $510.05 \div 1,000 =$

Complete each equation with the correct power of 10. Be sure to look carefully at the given operation.

- a. 14.6 × ___ = 146
- **b.** 387.23 × = 3.8723
- c. 9.102 × --- = 910.2
- d. 65 × ---- = 6,500
- e. 0.39 × = 0.039
- f. 0.75 × ---- = 750 g. 28.4 × ---- = 0.284
- = 150.800 h. 150,8 × —

- 14.6 ÷ ____ = 146
- 9.102 ÷ ---- = 910.2
- 65 ÷ ____ = 6,500 $0.39 \div - = 0.039$
- $0.75 \div = 750$
- ____ = 0.284 28.4 ÷ -
- 150.8 ÷ ----= 150,800



Complete.

- a. $89.36 \div 100 89.36 \times$
- c. $0.005 \div 0.01 = 0.005 \times$
- e. 2.732 × 0.1 = 2.732 ÷
- g. $33.56 \times 100 = 33.56 \div$

- **b.** $7.5 \div 0.01 = 7.5 \times -$
- d. $675 \div 1,000 = 675 \times$
- f. $25.600 \times 0.01 = 25.600 \div$
- h. $600.5 \times 10 = 600.5 \div -$

7. Put (< , = or >).

- $2.36 \div 0.01$ a. 2.36 × 100
- $73.6 \div 100$ c. 73.6×0.1
- 92.3 e. 0.923 × 1.000
- $g. 506.2 \pm 10$ 5,062
- b. 73.5×100

f. 58.3 ÷ 0.001

- $73.5 \div 0.001$
- d. 253×0.01
- $25.3 \div 10$ 583 × 1.000
- h. 37.8×10
- $3.78 \div 0.1$

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8. Complete each conversion. Then, write a multiplication equation and a division equation with the same answer:

a,1.1712 mL=	L	b. 73.5 kg =		c. 🖽 23 m –	
712 × =		73.5 ×	_=	23 ×=	
712 ÷		73.5 ÷	_=	23 ÷	
d. 25,300 cm =	m	e. 🚨 300 g=	kg	f.763.4 m =	km
25,300 ×	- =	300 ×	_=	763.4 ×	_=
25,300 ÷	=======================================	300 ÷	_=	763.4 ÷ —	-=-
g 5,200 mm =	m	h. 125 L =	— mL	i.@5,200mm=	cm
5,200 × -	=	125 × —	_=	5,200 ×	_=
5,200 ÷	-=	125 ÷		5,200 ÷	-=
j.9,800 cm=	- km	k. 2.45 mL=	L	l. 4.7 cm =	— mm
9,800 ×	-=	2.45 ×	_=	4.7 ×=	
9,800 +	=	245÷	-=	4.7 ÷	

9. The price of one chocolate bar is 5.25 LE. Find the price of 100 bar of chocolate.

10. A box contains 10 bars of soap each of weight 125 g. Find the weight of the 10 bars in kg.

11. Tony walks 725 m per day. What is the total covered distance in 10 days?

12. 2.5 Liter of juice wanted to be poured into 10 glasses equally. Find the capacity of each glass.

13. Temperatures must reach at least 1,100°C for glass to be blown or for earthenware clay to harden. Water boils at about one-tenth of that temperature. Select the choice that is closest to the temperature at which water boils.

A. 1,100 × 10

B. 1,100 ÷ 10

C. 1,100 × 0,1

D. 1,100 ÷ 0,1

Multiple Choice Questions

cho	ose the correct ar	nswer.		
1.	6.3 × 100 =		2. 783.5 × ——	= 7,835
0	A. 0.063	B. 6,300	A. 0.1	B. 0.01
	C. 6.300	D. 630	C. 10	D. 100
3.	×0.01	= 5.36	4. 7.38 × 0.1 =	
0	A. 0.536		A. 7.38 × 100	B. 73.8
	C. 53.6	D. 5.3600	C. 7.38 ÷ 10	D . 0.0738
5.	32.59 ÷ 0.1 =	[Ismailia 2	6, 85.3 ÷ 1/100 =	
0	A. 3.259	·		B. 8.53
	C . 325.9			D. 85,300
				(El Menia - Deir Mawas 23)
7.	One hundredth o	of the	8. 5,200 g = -	кд
0	number 76.93 = -		⁶ A, 52	B . 5,200,000
	• •	B. 76.93 ÷ 100	C. 5.2	D. 0.052
	C. 769.3			
9.	30.5 km =	_m	10. 0.735L=	— mL
Ø	A. 30,500	B, 30.5000	A. 735	B. 7.35
	C. 305		C. 73,5	D . 7,350
11.	3,200 mL –	- L [El Beheira 23		000 grams in
0		B. 32	kilograms.	(El Monofia - Tala 23)
	C. 3.2	D. 0.23	A. 3	B . 3,000
			c. 30	D . 300
-	3. He ght of a building of ten floors			of length 7.75 m is divided
60	where the height			of equal length, then n piece = ——cm
	280 cm is	– m		i piece – ——— ciri

B. 77.5

D. 7.75

A. 0.775

C. 775

B. 280

D. 2.8

A. 2,800

C. 28



- Dividing Decimals by Whole Numbers
- Dividing Decimals by Decimals

Learn 1 Dividing decimals by whole numbers

Nana has 210 kg of sugar, she wants to distribute them equally among 40 bags.

What is the weight of sugar in each bag?

The answer of this problem must not include remainder:

Remember that

The steps of standard algorithm

Divide

Multiply Subtract

Compare Bring down

Repeat this order

until the division is completed.

How can you evaluate 210 ÷ 40?

- Use the standard algorithm to $\frac{5}{2}$ evaluate $\frac{210 \div 40}{40}$ 40 $\frac{210}{210}$, then the quotient is 5 and the remainder is 10 which is not enough to be divided by 40, so we regroup 10 ones to be divisible by 40 as the following steps:
- Place a decimal point to the right of
 Ones place in the dividend [210.]

 Place a zero in the Tenth place [210.0]
- and another zero in the Hundredth
 place [210.00], then the value of the
 dividend does't change.
- Place a decimal point in the quotient directly above the decimal point in the dividend, then bring down the zero which in the Tenth place.

Complete the other steps of the standard algorithm.

- You can check the reasonableness with compatible number as $200 \div 40 = 5$ and 5.25 is close to 5
- You can check the answer by multiplication : $5.25 \times 40 = 210$

Notes for parents:

 Let your child remember the steps of standard algorithm: Divide, multiply, subtract, compare, and bring down. Repeat until the devision is complete.

Example 1

Find: 155 + 50

- The answer includes a remainder
- The answer does not include a remainder

Colution [V]



The answer includes a remainder

, then
$$155 \div 50 = 3 R5$$

The answer does not include a remainder.

, then $155 \div 50 = 3.1$

Infinite division

How can you evaluate 5.5 ÷ 3 to the nearest Hundredth?

- Notice that in this case, the operation of division is infinite, so we call it infinite division.
- You can go on the operation of division, but you need the result of division rounded to the nearest Hundredth, so only divide until you reach three decimal places, then use the rules of rounding. then, $5.5 \div 3 \approx 1.83$ to the nearest Hundredth.
- The quotient of this problem is a repeating decimal.
- You can check the reasonableness with compatible number as 6 ÷ 3 = 2 and 1.833 is close to 2

	1.	833	3
3) 5.	50	O
	$\frac{-3}{2}$	5	+
	- 2	4 +	
		10	Ť
	-	9	+
		1	0
	_		9
			1

Example 2

Use the standard algorithm to find the quotient of each of the following make sure that your answer does not include a remainder.

- a. 58.05 ÷ 15
- b. $3 \div 40$
- c. 223.1 ÷ 9 (to the nearest Hundredth)
- d. 1.21 ÷ 6 (to the nearest Thousandth)
- Remind your child that placing a decimal and a zero to the right of ones place in the dividend does not change its value.

Solution [7]

15) 58.05 -45 130 -120 105 - 105

, then
$$3 \div 40 = 0.075$$

d. 6) 1.2100

, then 1.21 \div 6 ≈ 0.202 to the nearest Thousandth.



Gheck your understanding

Use the standard algorithm to find the quotient of each of the following.

a. 342.7 ÷ 46

b. 84.24+78

c. 30)4.8

d. 6)15.8

Notes for parents:

· Your child might misplace the decimal point in the quotient in relation to the decimal point in the dividend

Learn 2 Dividing decimals by decimals

To divide by a decimal, you can use the same way of dividing whole numbers, by writing the divisor as a whole number.

Do this by multiplying the divisor and the dividend by 10, 100, 1,000, ... ect. according to the number of places of the decimal part of the divisor.

For Example:

To divide 32 by 0.4, multiply the divisor by 10

(to change it into a whole number),

and then multiply also the dividend by 10

$$0.4 \times 10 = 4$$
 and $32 \times 10 = 320$

\$0, 32 ÷ 0.4 = 320 ÷ 4 = 80

Notice

You can move the decimal point in the dividend by the same number of places that you need to move the decimal point in the divisor to make the divisor a whole number.



$$0.0042 \div 0.07 = 42 \div 7 = 6$$

$$\cdot 2.72 \div 0.8 = 27.2 \div 8 = 3.4$$



Remark

You may need to add a zero (or more) to the right of the dividend so that you can move the decimal point.

For Example:

$$14.1 \div 1.41 = 14.10 \div 1.41 = 1,410 \div 141 = 10$$

Example 3

Find the quotient of each of the following:

 Remind your child that he/she can place one zero or more to the right of the last decimal place of the number without changing its value.

Solution 🖤

- a. The quotient = 29.76 ÷ 6.4.
 - = 297.6 + 64
 - =4.65

The divisor has one decimal place. So, the decimal point moves one place to the right in both, the divisor and the dividend.

Divide by using standard algorithm

	Draft
	4.65
64)	297.60
	- 256
	416
	384
	320
	320
	000

b. The quotient = $0.1134 \div 0.18$ = $11.34 \div 18$ = 0.63 Draft
0.63
18) 11.34
-108
054
-54
000

V	
_	

your understanding

Find the quotient of the following:

- a. 34.4 ± 0.4
- c. 0.95)12.584

- **b.** 3.175 ÷ 2.5
- d. 27.365 ÷ 8.42

Notes for parents:

Remind your child how he/she divide two numbers using standard algorithm.

- Dividing Decimals by Whole Numbers
- Dividing Decimels by Bedimois
- UNDERSTAND OAPPLY
- A PROBLEM SOLVING
- From the school book
- Complete each of the following as in expample (a).
 - a. $3.5 \div 0.5 = 35 \div 5 = 7$
 - c. 3.6 ÷ 0.4 = ----- = -
 - e. 7.2 ÷ 0.8 = ----- ÷ ----- =
 - a. 0.33 ÷ 0.11 = ----- ÷ ---- = -
- **b.** 4.2 ÷ 0.7 = —— ÷ —— =
- d. 0.28 ÷ 0.04 = ---- ÷ ----
- f. 76.5 ÷ 7.65 = ---- ÷ ---
- 2. Find quotient of each of the following.
 - a. $2.64 \div 0.2$
 - $d. 4.384 \div 0.32$
 - g. 357 ÷ 0.7

- **b.** $4.86 \div 0.9$
- e. 0.1932 ÷ 0.92
- h. 3,375 ÷ 0.15

- c 2.67 ÷ 1.2
- f. 1.155 ÷ 0.35
- i. $7.7728 \div 0.64$
- 3. III Use the standard algorithm for division to find the quotient.
 - a. 5 5 1.65
- Quotient:
- b. 6)73.02
- Quotient: -

Quotient:-

- c. 16)62.24
- Quotient:-
- d. 30) 5 8 9. 5

- e. 2.2 2 6. 4
- Quotient: -
- f. 0.4) 9 9
- Quotient:

- g. 0.04) 1. 5
- Quotient: -
- h. 1.9) 9. 9 5 6
- Quotient:-

- 1. 0.05) 1. 4 3
- Quotient:-
- j. 7.3)3 4 3 1
- L 0.04 0.5 1

- k. 0.5) 4 4
- Quotient: -

Quotient:

Quotient:-

(to the nearest week)

9. (Evaluate the student's work below. Explain the error (or errors) the student made.

Divide: 0.3)7 7. 4 3

3)7.743

Student's work: $77.43 \div 0.3$ will have the same quotient as $7.743 \div 3$

Then, perform the division correctly to find the quotient.

- 10. (1) Use the standard algorithm for division to find the quotients.
 - 1. An electrician has a wire of 150 m. He wants to divide it into 40 parts of equal length, such that the length of each part is a whole number. What is the length of one part? How many meters will be left?
 - 2. The city council planted trees on a side of a 2,050-meters road. If 75 trees are planted at equal distances, such that the distance between each two trees represents a whole number. What is the distance between each two trees? and what is the remaining distance?
- 11. Use the standard algorithm to find the quotients. (Note the quotient is a decimal) Check your answer for reasonableness.

 - 2. (ii) The city council planted trees on a side of a 2,050 meters road. If 75 trees are planted at equal distances. What is the distance between each trees?
 - Emad, the electrician, has 4.5 meters of wire that is cut into 30 pieces that are all the same length. Find the length of each piece of wire.
 - 4. Dalia wants to pour 20 liters of hibiscus equally into 50 cups. How much hibiscus (in liters) will be in each cup?

- The length of a roll of cloth is 59.5 metres.
 It was divided into equal parts where the length of each part is 3.5 metres.
 Find the number of these parts.
- A train covered a distance of 221.65 km in 2.5 hours. Calculate the distance it covers in one hour.
- A building has the height of 42 meters. If the height of each floor is 2.8 meters, then find the number of floors.
- The area of a rectangle is 9.43 cm², and its width is 2.4 cm,
 Find its length and approximate it to the nearest Hundredth.







Challenge

- 12. Given that : $2,752 \div 43 = 64$, then find mentally.
 - a. $2,752 \div 4.3$
 - c. 275.2 ÷ 0.064

- **b.** 27.52 ÷ 4.3
- d. 2.752 ÷ 43
- 13. Given that: 46 × 57 = 2,622, then find mentally.
 - a. 26.22 ÷ 0.57
 - c. 262.2 ÷ 5.7
 - e. 26,22 ÷ 0.057

- b. 26.22 ÷ 4.6
- **d.** $262.2 \div 0.46$
- f. 2.622 ÷ 0.46

Multiple Choice Questions

Choose the correct answer.

C. $302.4 \div 3.6$

3. $80 \div 0.08 =$

A. 3.25

C. 0.325

9. 1.1 ÷ 1.3 ≈ -

A. 0.8

C. 0.84

A. 50

C. 0.7

- 1. 30.24 ÷ 3.6 = -B. 302.4 ÷ 36 A. 3.024 + 36
 - D. 3024 ÷ 36
- 2. $4.5 \div 0.45 =$
 - A. 1 C. 100
- B. 10 D. 0.1

- (Ismailia 23)
- A. 10 B. 100 C. 1000 D. 8000
- 4. 6 ÷ 0.75 = -A. 8
 - B. 2.25 D. 3.75 C. 4.5
- (Ismailia 23) __ = 100 5. 32.5 ÷ -
 - B. 0.0325 D. 325
- 6. 8.3 ÷ 3 ≈ [to the nearest Hundredth]
 - A. 2.7 C. 2.8
- D. 2.766

(to the nearest week)

(Souhag 23)

[Port Said 23]

B. 2.77

weeks.

B. 4

D. 6

- 7. 462.3 ÷ 0.23 $4,623 \div 2.3$ B. < C. = A. >
 - (El Monofia Tala 23)

(to the nearest Tenth)

C. 5

30 days ≈

A. 3

- 10. 224.38 ÷ 65 = A. 3.5
 - B. 3.45 D. 3.452 C. 3.13
- 11. 35 ÷ 0.7 =

B. 0.9

D. 0.85

- (Cairo Heliopolis 23)
 - B. 70 D. 0.5
- A. 3,000 C. 300

12. $90 \div 0.03 = -$

14. 25.25 ÷ 0.25 = -

- 13. $1.5 \div 0.5 = -$
 - A 5
 - C. 0.5
- **D.** 0.3

B. 3

- (Aswan Kom Ombo 23)
- A. 11
 - C. 110
- B. 101 D. 111

B. 30

D. 3

[Giza - El Agouza 23]

Unit Five Assessment



1. Choose the correct answer.

1. 700 g =

g

- C. 0.07
- (El Monofia Tala 23)

- A. 0.7
- 2. 0.2 × 0.3 =
- B. 0.6

B. 7

- C. 0.06
- **D**. 0.007

D. 0.0006

- 3. 25.25 ÷ 0.25 =
 - A 11
- B. 101
- C. 110
- D. 111

- 4. 7.5 L = 1.500 mL = ----- L
 - A. 6
- B. 60
- C. 600

0.3

- D. 6,000
- - A. 20
- 8, 20.24
- C. 36.55
- D. 4.8
- 6. 8.43 × 0.2 ≈ [to the nearest Hundredths]
- (Cairo El Nouzha 23)

- A. 1.686
- B. 1.7
- C. 1.69
- D. 2

7. 7.18 × 3.5 — 71.8 × 0.35

(Ismailia 23)

- A. >
- B. <
- €. =

2. Complete the following.

- 1. 704.1 × 0.01 = ----
- 0
- 2. 230 meters = _____ centimeters

[Port Said 23]

3. The quotient of 0.36 ÷ 0.6 -

[Cairo - El Sherouk 23]

4. 0.3 ÷ 0.2 = ----

[Giza - Awseem 23]

- 5. 43 days ≈ weeks [to the nearest week]
- 6. ———× 0.001 = 5.234
- 7. 0.004 L = ----- mL
- 8. 6 cm and 5 mm = ---- cm

Choose the correct answer.

1. 461.12 ÷ 10 = -

(Cairo - El Nouzha 23)

- A. 4.6112
- B. 46112
- C. 461.12
- D. 4611.2

- A. >
- $)40.000 \times 0.001$ B. <
- C. =

3. 6.345 : 0.01=

2. 0.004×1.000

- A. 6345
- B. 0.06345
- C. 6345
- [Alexandria West 23] D. 63,450

[El Menia 23]

4. $2 \div 0.4 = -$

(El Beheira 23)

- A. 2
- B. 10
- C. 5
- D. 8

- 5. The divisor in the equation 1.8 \div 6 = 0.3 is
- C. 6
- D. 3

- A. 0.3
- B. 1.8

- 6. 735 cm = ---- m A. 73,500
- B. 7.35
- C. 73.5
- [El Beheira Housh Essa 23] D. 7,350

- 7. 60 a = ------ ka
 - A. 0.06
- B. 0.6
- C. 60
- D. 6,000

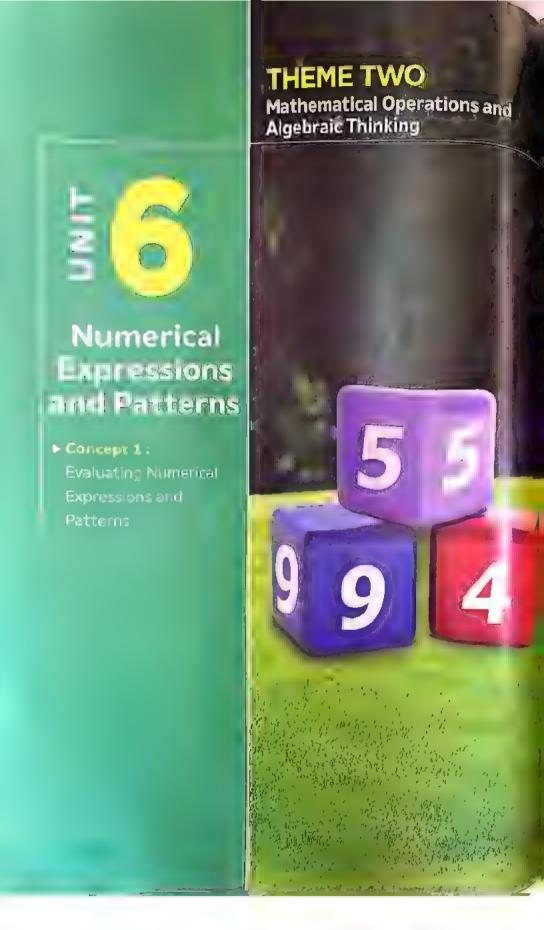
Answer the following questions.

- 1. Edward has 3.45 meters of wire that is cut into 15 equal pieces.
 - Find the length of each piece of wire?
- (Cairo El Khalifa and El Mokattam 23)
- Find the product of: 25 × 32.5 using any strategy.

- (Aswan 23)
- Ahmed bought 8 pens of the same type, if the price of one pen is 3.5 pounds. How much money will Ahmed pay?
 - (El Menia Deir Mawas 23)

4. Using any strategy to find: (with steps) $0.1134 \div 0.18$

[Ismallia 23]





Lesson Na	Lesson Name	Learning Objectives	
Lessons	Ordering of Mathematical Operations	 Students will use the order of operations to evaluate expressions with whole numbers and decimals. 	
182	Numerical Expressions with Parentheses.	Students will identify how grouping symbols affect the order of operations. Students will evaluate an expression with groping symbols.	
Lesson 3	Writing Expressions to Represent Scenarios	Students will write an expression to represent a written scenario.	
Lesson 4	Identifying Numerical Patterns	 Students will identify a numerical pattern. Students will explain the rule for a numerical pattern. Students will use letters to represent unknown quantities in a rule for a numerical pattern. 	



36+3×5

36 + 15

- Ordering of Mathematical Operations
- Numerical Expressions with Parenthese

Learn

How do you evaluate a numerical expression with more than one operation?

Two students evaluated the numerical expression : $36 + 9 \div 3 \times 5_{4}$ got different answers.





	The state of the s
Omar's Way	Sandy's Way
36+9÷3×5	36+9÷3×5
45 ÷ 3 × 5	36+3×5
15×5	36 + 15
75	51

To avoid getting more than one answer, mathematicians use the Ordering of Mathematical Operations given below. Sandy used the CORRECT ORDER. The value of the expression is 51.

Ordering of Mathematical Operations

- 1. First do the operations inside parentheses and brackets.
- 2. Then, multiply and divide in order from left to right.
- 3. Finally, add and subtract in order from left to right.

Example 1

Use the order of mathematical operations to evaluate each expression.

a.
$$12 + (9 - 2) \times 8$$

c.
$$40 \div 8 \times 0.01 + 14.95$$

e.
$$288 - [12 + 3 \times (28.5 \times 2.1)]$$

b.
$$53 \times 2 + 54 \div 1.5$$

d.
$$2,514.6 = 23.4 \div 0.01 + 11.7$$

Notes for parents:

• Ask your child which operation comes first when solving the problems : $12 \div (4-1)$ and $6 \div 4 \times 5$.

colution [V]

 $= 12 + 7 \times 8$

Finally add

Then multiply

There is no parentheses b. $53 \times 2 + 54 \div 1.5$ a. $12 + (9 - 2) \times 8$ Parentheses first so multiply and divide first

Then add

There is no parenthese c. 40 ÷ 8 × 0.01 + 14.95

 $5 \times 0.01 + 14.95$

15

Then multiply Finally add

, so divide from left to right

There is no parenthese d. $2.514.6 - 23.4 \div 0.01 + 11.7$.so divide first

186.3

- = 2,514.6 2,340 + 11.7 Then subtract from left to right Finally add
- e. 288 [12 + 3 × (28.5 × 2.1)] Inside parentheses first

 $= 288 - [12 + 3 \times 59.85]$ Then multiply

Then brackets = 288 - [12 + 179.55]

Finally subtract

96.45

Math Hint

- 1. For operations within parentheses
 - a. multiply or divide from left to right b. add or subtract from left to right
- 2. For operations outside of parentheses
 - a, multiply or divide from left to right b, add or subtract from left to right

check your understanding

Use the order of mathematical operations to evaluate each expression.

a. $63 + 14 \times 25$

 $6.912 - 84.6 \div 0.1$

c. $100 \times (72.18 + 3.12) \div 6$

Let your child follow the order of operations within parentheses.

Ordering of Mathematical Operations

Numerical Expressions with Parentheses

• REMEMBER

9	4	_ K	,]	Alle	F
---	---	-----	-----	------	---

PAPPUY

A PROBLEM SOLVING

(1) From the school book

1. Use the order of mathematical operations to evaluate each expression of the following.

[Aswan 23]

d.
$$55 \div \{2+9\} = 5 = ---$$

(Giza – Awssem 23)

[El Beheira 23, Giza - Awseem 23]

h.
$$28.1 - 3.5 \times 0.2 + 29.4 = -----$$

(Ismailia 23)

j.
$$1.3 + 3.45 \times 8 - 2.02 = ---$$

[Cairo - Heliopolis 23]

L.
$$3.52 \times 10 + 283 \div 10 = -----$$

[Aswan - Kom Ombo 23]

m.
$$\square$$
 35 × 0.1 + 89.14 ÷ 0.1 = ---

(Cairo 23)

p.
$$\square$$
 597.8 ÷ 6.1 + 13 × 1.7 = ---

q.
$$41,403.5 - 12.3 \div 0.01 + 9.8 = ----$$

$$\star$$
. \square 82.43 \times 3.1 + 4.05 \div 0.01 \square 2.5 \equiv \sim

2. Carouping symbols. Evaluate the set of expressions.

a.
$$45.84 + 13.05 \div 5 + 20.32 - 1.14 \times 2.1$$

b.
$$(45.84 + 13.05) \div 5 + 20.32 - 1.14 \times 2.1$$

3. \square Grouping symbols, Advanced. Evaluate the set of expressions.

a.
$$30 \times 2.5 + 47.18 = 3.12 \div 0.1$$

b.
$$30 \times (2.5 + 47.18 \quad 3.12 \div 0.1)$$

4. 🗀 The Right route. All drives a bus route through the city. His stops follow the order of operations for evaluating the expression.

$$300.53 - 11.04 \times 0.2 \div 0.01 + 13.07$$

Stop 1	Stop 2	Stop 3	Stop 4
A. 300.53 – 11.04	E. 2,208 ÷ 0.01	J. 57.898 : 0.01	N. 5,789.8 +13.07
B. 11,04 × 0,2	F. 0.2 ÷ 13.08	K, 220.8 + 13.07	P . 79.73 + 13 07
C. 0.2 ÷ 0.01	G. 289.49 × 0.2	L. 289.49 × 20	Q. 300.53 – 233.87
D. 0.01 + 13.07	H. 11.04 × 20	M. 300.53 – 220.8	R. 57.898 + 13.07

Record the letters of the correct stops along his route to show the steps for evaluating the expression.

- 1. Stop 1:
- 2. Stop 2:
- 3. Stop 3: ----
- 4. Stop 4: ---



Tour Bus

5. 🕮 How Many Values? Use grouping symbols to create as many expressions with different values as you can.

c.
$$57 - 11 \times 1.2 + 3.4 + 1.9 \div 10$$

- 6. A Place the Grouping Symbols. Kamal placed grouping symbols in the expression.
 When he evaluated the expression, he found a value of 6.45
 What grouping symbols did he use? Where did he place them?
 15.25 ÷ 2 + 3 + 6.8 ÷ 2
- 7. Writing About Math. Explain why the values of $217 + 354 \times 0.1$ and $(217 + 354) \times 0.1$ are different. What is the value of each expression?
- 8. Who is correct? Wael and Marwan both solved the problem 47.1 × 31 28.4 ÷ 4 ÷ 33.2
 Wael says the answer is 63.815 and Marwan says the answer is 1,486.2 Who is correct?
 How do you know? Explain your thinking.



Multiple Choice Questions

Choose the correct answer.

- 1. Which is the first step in evaluating $28.1 - 3.5 \times 0.2 + 29 - 4?$

 - A. 28.1-3.5
- C. 0.2 + 29
- **B.** 3.5×0.2 D. 29 - 5
 - [Giza 23]
- 2. The first operation to calculate:

$$15 \div (3-2) \times 7 + 8 \text{ is} -$$

- A. addition
- B. subtraction
- C, multiplication
- D. division

- 3. To find the value of expression:
 - $43.1 \div 0.1 = 3.1 \times (2.2 + 3.8)$ perform the operations - first.
 - A. subtraction
- B. multiplication
- C. within parentheses D. division

[Aswan - Kom Ombo 23]

- 4. The second step in the expression:
 - 36.12 × 4 + 55 12.5 is -
 - A. 36.12 × 4 B. 36.12 × 59
 - C. 144.48 + 55

 - D. 144.48 12.5

- 5. $2.3 \div 0.1 + 10 = -$
 - A 230
- B. 10.23
- C. 33
- D. 0.33

(El Beheira - Housh Essa 23)

- 6. $12 + 24 \div 4 + 8 =$
 - A. 28
- B. 26
- C. 22 D. 19

(Port Said 23)

- The value of this expression :
 - $[7.5 \times 10] + 2.3$ is =
 - A. 77.3
- B. 9.8
- C 19.8
- D. 2.78

[El Menia 23]

- 8. $25 \times 4 \div [6-5] = -$
 - A. 100
- B. 101
- C. 0.01
- D. 165

[Monofla - Shiben El Kom 23]

- 9. $(13.5 5.13) \div 0.1 + 16.3 = -$
 - A. 10
- B. 83.5
- C. 30
- D. 100

[Calro – El Nouzha 23 , Al Khalifa and Al Mokattam 23]

- 10. 12 = -
 - A. $54 \div (3 + 6 \times 2)$
 - **B.** $(54 \div 3) + (6 \times 2)$
 - C. $54 \div (3 + 6) \times 2$
 - **D.** $54 \div [(3+6) \times 2]$



Writing Expressions to Represent Scenarios

Learn

Writing Expression

The numerical expression in math is a sentence with numbers and math operations. This math operations may be "addition, subtraction. multiplication, or division". Expression may contain parentheses or brackets if needed.

Example 1

Write an expression that matches the clues.

Then, evaluate the expression.

- a. Add 22.7 and 35.3, then multiply the result by 3
- b. Divide 225.3 by 3, then add 4.9. After, divide the result by 10
- c. Find the difference between 66.25 and 7.5, then divide the result by 0 2 last add to 1.4

Solution [V]



a. Add 22.7 and 35.3 --- 22.7 + 35.3

Then multiply the result by $3 \longrightarrow [22.7 + 35.3] \times 3$

Parentheses are needed to find the result of adding the numbers first before doing the multiplication operation. Evaluate $[22.7 + 35.3] \times 3 = 58 \times 3 = 174$

After, divide the result by
$$10 \longrightarrow [225.3 \div 3 + 4.9] \div 10$$

Evaluate:
$$(225.3 \div 3 + 4.9) \div 10 = (75.1 + 4.9) \div 10$$

$$= 80 \div 10 = 8$$

Divide the result by
$$0.2 \longrightarrow [66.25 - 7.5] \div 0.2$$

Evaluate:
$$[66.25 - 7.5] \div 0.2 + 1.4 = 58.75 \div 0.2 + 1.4$$

= 293.75 + 1.4 = 295.15

Notes for parents:

 Ask your child to read the clues well, and translate it into numbers and operations.

Expressions and story problems

Example 2

Write an expression that matches the scenario. Then, evaluate the expression.

Amgad ran 15.3 kilometers for 5 days each and 12.7 kilometers for 8 days each.

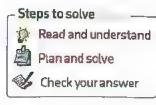
How many kilometers did he run over those 13 days?

Solution 🕎

, in 8 days → 12.7 × 8

Then in 13 days --- 15.3 × 5 + 12.7 × 8

Evaluate: 76.5 + 101.6 = 178.1 kilometres



Example 3

Write an expression that matches the scenario. Then, evaluate the expression.

Amira had 275 pounds. She bought 3 kilograms of oranges with 7.25 pounds each and 13.75 pounds for sweet corn. How much money was left with Amira?

Solution [7]



Total money → 275

Price of oranges 3 × 7.25

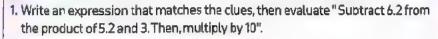
Price of oranges and sweet corn → 3 × 7.25 + 13.75

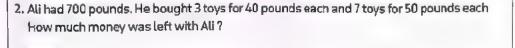
Evaluate: 275 — [21.75 + 13.75]

= 275 - 35.5 = 239.5 pounds.



check your understanding





Remind your child to follow the order of operations when he/she evaluate the expression.

on lesson:

Writing Expressions to Represent Scenario

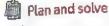
REMEMBER

🌲 PROBLEM SOLVING From the school book

- 1. Writing Expressions. For each problem, write an expression that matches the clues. Then, evaluate the expression. a. Add 7.4 and 23. Then, multiply the result by 10.
 - Subtract 3.1 from 4.62. Then, multiply the result by 2.
 - c. Multiply 6.3 by 12.4 and then add 21.88 After, divide the result by 20.
 - d. Divide 93 by 0.3 and then add 114.7. After, divide the result by 5.
 - Add 30.4,87 and 17.5. Then, subtract the result from 224.7. Multiply by 100.
 - f. Divide 2,325 by 10. Next subtract 162. Then, add 24.5. Last, multiply the result by 3.
 - g. 🖽 Multiply 7.6 by 100. Next, subtract 34.3. Then, add 12.4. Last, divide the result by 0.1.
 - Find the sum of 1.3 and 3.45. Multiply by 8. Next, subtract 2.02. Then, subtract the result from 75.
 - Find the difference between 10 and 9.27. Multiply by the sum of 54 and 46. Then, divide 1,168 by the result.
- Expressions and story problems. For each problem, write an expression that matches the scenario. Then, evaluate the expression. Remember
 - a. Ehab had 102.5 pounds. He bought 4 toys for 19,5 pounds each. How much money was left with Ehab?

The steps to write expressions

Read and understand



Check your answer

- c. Sandy made 11.8 liters of orange juice. She sold 4 liters and divided the rest into 6 bottles equally. How much orange juice is in each bottle?
- d. Ali traveled 3,900 kilometers by car. He drove 560 kilometers for 3 days each and 430 kilometers for 5 days each. How many kilometers were left to finish his trip?
- e. (1) As a part of his fitness training, Mounir cycles 38.7 kilometers in 2 hours. If he cycles at the same rate the entire time, how many meters does he cycle per minute?
- f. Hoda is filling identical vases with water for flower arrangements at the florist. She starts with 15.75 liters and pours an equal amount into 16 vases. When she is finished, Hoda still has 3.75 L of water left. How much water is in each vase? Give your answer in liters.



Choose the correct answer.

- Which expression matches the clue "Add 30 to 25 and divide the result by 0.5"?
 - A. $30 + 25 \div 0.5$
 - **B.** $0.5 \times [30 + 25]$
 - C. $[30 \pm 25] \div 0.5$
 - $0.30 \div 0.5 + 25$

(Giza 23)

- Subtract 2.2 from 6.42 and multiply the result by 3, then the expression is
 - A. 2.2×2-6.42
 - B. $3 \times 6.42 2.2$
 - C. 6.42 2.2 × 2
 - D. [6.42 2.2] × 3 [Giza Abo El Nomrous 23]
- Which expression matches the clue "Multiply 5.4 by 100, next add 18, Last divide the result by 9"?
 - **A.** $5.4 \times 100 + 18 \div 9$
 - **B.** $5.4 \times [100 + 18] \div 9$
 - C. $[5.4 \times 100] + 18 \div 9$
 - **D.** $[5.4 \times 100 + 18] \div 9$

- 4. Which expression matches the clue "Divide 66 by 0.2, then add to the result the product of multiplying 3.6 by 0.1"?
 - A. $66 \div 0.2 + 3.6 \times 0.1$
 - B. $66 \div [0.2 + 3.6] \times 0.1$
 - C. $66 \div [0.2 + 36 \times 0.1]$
 - D. $[66 \div 0.2 + 3.6] \times 0.1$
- Which expression matches the clue 'Add 7.12 to the result of multiplying 2.1 by 10, then subtract the result from 45"?
 - A. 2.1 × 10 + 7.12 45
 - **B.** $45 = [2.1 \times 10 + 7.12]$
 - C. $[2.1 \times 10 + 7.12] 45$
 - **D.** $2.1 \times (10 + 7.12) 45$

- 6. Which expression matches the caue "Find the difference between 42 and 37. Multiply by the sum of 2 and 8. Then divide 2,000 by the result"?
 - A. $2.000 \div [42 37 \times 2 + 8]$
 - B. $2,000 \div [42 37] \times [2 + 8]$
 - C. $[42 37 \times 2 + 8] \div 2.000$
 - D. $[42-37] \times [2+8] \div 2,000$
- 7. Which expression matches the clue "Giovanni bought 60 fish. He put 5 fish in 9 bowles each". How many fish are left with Giovanni? [Giza - Awseem 23]
 - A. $[60-5] \times 9$
- B. $[60-9] \times 5$
- C. $60 + 5 \times 9$
- D. $60 5 \times 9$
- Which expression matches the clue "Mary run 12.5 kilometers for 3 days each and 11.3 kilometers for 7 days each". How many kilometers did she run in these 10 days?
 - **A.** $12.5 \times 3 + 11.3 \times 7$ **B.** $12.5 \times 3 11.3 \times 7$ **C.** $12.5 \times 7 + 11.3 \times 3$

- D. $(12.5 + 11.3) \times (7 + 3)$





Problem

Mr. Ahmed wrote a number pattern.

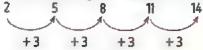
What rule describes his pattern?

What will the next number be?



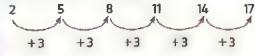
Look at the number pattern. Find the rule.

Think: What should I do to 2 to get 5? What should I do to 5 to get 8?



The numbers increase by 3.50, the rule "add 3" describes the pattern. You can write the rule as "n + 3" such that n represents the previous numbers.

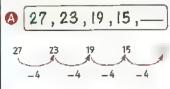
Use the rule to extend the pattern.



A rule must be true for all the numbers in the pattern.

So, the next number in the pattern is 17

▶ More Examples:



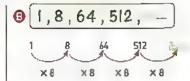
The rule is subtract 4.

• To find the missing number, subtract 4.

$$15 - 4 = 11$$

So, the missing number is 11.

The rule: x = 4



The rule is multiply by 8.

 To find the missing number, multiply by 8.

$$8 \times 512 = 4096$$

50, the missing number is 40%.

The rule: n × 8

Notes for parents :

 Ask your child to describe a pattern and let him/her discover how he/she could find the next number in a pattern

Example 1

Look at each set of numbers and identify whether the numbers form a pattern. If yes then identify the rule.

- a. 7,14,28,56,
- c. 90,85,70,60,

- b. 2,3.5,5,6.5,—
- d. 8,16,24,30, -

Solution [V]

- a. Yes, the rule: 2 × n
- c. No

- b. Yes, the rule in +1.5
- d. No

Example 2

Look at each table and determine the rule use a variable to write the rule.

a.

Input	Output
1	7
2	8
3	9
4	10

Ŋ.

Input	Output
4	1
8	2
12	3
16	4

_

Input	Output
10	8
12	10
14	12
16	14

Rule: -



a. n + 6

b. n ÷ 4

c. n-2

Rule: ~



thedk your understanding

1. Look at each set of numbers and identify whether the numbers form a pattern. If yes then identify the rule.

Rule: ---

a. 4,5.5,8.5,14.5

- b. 1,6,10,11,16
- 2. Look at each table and determine the rule use a variable to write the rule.
 - a.

Input	Output
10	2
20	4
30	6
40	8

Rule: -

þ.

	Input	Output
	1	3
1	3	5
	5	7
	7	9

Rule: -

- Ask your child to use letters to represent unknown quantities in a rule for a numerical pattern

Identifying Numerical Patterns

UNDERSTAND

O APPEN

3 PROBLEM SOLVING

From the school book

1. Look at each set of numbers and identify whether the numbers form a pattern.

If yes, then identify the rule.

	Set	Pattern?(Y/N)	Rule
1.	5,10,20,40,80		(El Menia 23)
2.	3,6,9,15,21,28		
3.	1.5 , 3 , 4.5 , 6 , 7.5		
4.	5,3,6,1,7,5		
5.	1,3,9,18,54		
6.	85 ,73 ,61 ,49 ,37		

2. Look at each table and determine the rule. Use a variable to write the rule.

a.

l. [Input	Output
	1	6
	2	7
Ī	3	8
	4	9
	5	10

Rule:

b.	

	Input	Cutput
	1	8
	2	16
Ī	3	24
	4	32
	5	40

Rule:

c.	

In	put	Output
	70	10
	63	9
	56	8
	49	7
	42	6

Rule:

d. 🕮

Input	Output
1	8
2	9
3	10
4	11

Rule:-

	1
c,	

input	Output
5	1
10	2
15	3
20	4
25	5

Rule:-

f.

Input	Output
35	25
34	24
33	23
32	22
31	21

Rule:

9.	Input	Output
П	3	18
	4	24
	5	30
	6	36
	7	42

h. 🕮 🛚	Input	Output
	3	12
	6	24
	9	36
ľ	12	48

- P	Number of Bicycles (input)	Number of wheels (output)
	1	2
l	2	4
Ì	3	6
	4	8
	5	10

1. [5]

Rule:	_
-------	---

Rule:	

616	te i		_

Input	Output
2	20
3	30
4	40
5	50
6	60

6	Input	Output
	6	1
	12	2
	18	3
	24	4
ľ	30	5

Input	Output
1	15
2	2.5
3	3.5
4	4.5
5	5.5

Rule:

3. Write the rule for each pattern with a variable, then complete the pattern by finding the missing values.

Rule:-

- a. 52,44,36,28,20, ____,__
- b. 23,27,_____,35,39,____,_
- c. 2,4,8,16, ,64, ____
- d. 17,.....,21,23, ____,
- e. 32,16,8,____,2,___
- Rule:
- Rule: ----
- Rule: --- (Giza Abo El Nomrous 23)

Rule:

- Rule:----
- Rule:
 - (Giza Awseem 23 , Cairo El Nouzha 23)
- f. ______,8,15, _____,29,____
- Rule:

4. Complete the following.

- a. The missing number in the pattern 2,6,18,...,162 is
- b. The rule in the pattern: 5,7,9,11, ...is
- c. The rule in the pattern: 1, 4, 19, 94, ... is ---
- d. The rule in the pattern: 10, 20, 30, 40, ... is
- e. The rule in the pattern: 7, 15, 31, 63, ... is ———
- f. The next number in the pattern: 0,1,1,2,3,5,8,13,...is

5. In Look at the pattern and the two students' work. Then, respond to the prompt.

write a rule using a variable and explain your thinking.

Yahia's Work

Rule . n × 7

I think the rule is multiply by 7 because $4 \times 7 = 28$

and $5 \times 7 = 35$ and it works for each pair.

Walid's Work

Rule: n + 7

I think the rule is divide by 7 because $28 \div 7 = 4$

and $35 \div 7 = 5$ and it works for each pair.

Which student is correct? Explain how you know your answer is correct.

Input	Output
28	4
35	5
42	6
49	7
56	8

Challenge

Look at the table and determine the rule. Use variable to write the rule.

å

Input	Output
2	3
4	7
6	11
8	15
10	19



Multiple Choice Questions

Choose the correct answer.

1. 3,5,7,9,11,

in the same pattern.

[Alexandria - West 23]

- A. 21
- B. 15
- C. 13
- **D.** 12

2. 2,5,8,11,

in the same pattern.

(El Beheira - Housh Essa 23)

(Port Said 23)

- A. 12
- B. 14

The missing value in the pattern 23, 27, ..., 35, is.

- C. 16
- D. 17

- A. 29
- B. 31
- C. 30
- D. 34

4. The pattern rule of . 35 , 31 , 27 , 23 , ... is ...

[El Monofia - Shiben El Kom 23]

- A n-2
- B. n+4
- C n×4
- D. n-4

- 5. The rule of the pattern: 3,7,11,15, ... is
- (Ismailia 23)

- A. n-4
- B. n+4
- C. n×4
- D. n + 4

- The rule of the pattern: 100,50,25,12.5,...is...
 - A. n ÷ 2
- B. n×2
- C. n 50
- D. n 25

- 7. The rule of the pattern: 3, 6, 12, 24, ... is _
 - A. n +3
- B. n×3
- C. n×2
- D. n + 2
- 8. In the following , the rule of the pattern: 1, 2, 5, 14, ... s
 - A. n+1
- B. n×2-1
- C. n×3-1
- D. n×2+1
- 9. In the following table, the rule of the pattern is ____
 - A. n + 1.5
 - B. n×2
 - $C_n n + 2$
 - D. $n \times 1.5$

- | Input | Output | 3 | 4.5 | 4 | 6 | 5 | 7.5 | 6 | 9 |
- 10. If the input is 45, and the rule is " $n \div 5$ ", then the output is

(Cairo - El Salam 23)

- A. 6
- B. 40
- C. 9
- D. 50

Unit Six Assessment



Choose the correct answer.

1. 16,8,4, (In the same pattern)

[El Monofia - Tala 23]

A. 4

B. 1

C. 2

D. 8

2. 145=

A. $24.5 \times (20 - 10) \div 2$ C. 24.5 × 10 - 20 × 5

B. $245 \times (1-0.9)$

D. $2 \times 100 - 6.5 \times 10$

3. In the opposite table:

The rule of the pattern is

A. n+4

B. n×5

C. n+8

D. $[n+3] \times 2$

Input	1	2	3	4
Output	5	10	15	20

4. Which expression matches the clue "Add 18.7 to the result of dividing 45.6 by 10, then subtract the result from 99"?

A. $45.6 \div 10 + 18.7 - 99$

B. $99 = [45.6 \div 10 + 18.7]$

C. $[45.6 \div 10 + 18.7] - 99$

D. $[99 - 45.6] \div [10 + 18.7]$

5. The second step to evaluate the expression: 9.3 × 0.1 + 4.7 – 1.1 is

A. 9.3×0.1

B. 9.3 × 4.8

C. 0.93 + 4.7

0.093 + 1.1

The rule of the pattern: 3,9,27,81,..., is

A. n×3

B. n+6

C. n×2+3

D. n×6

7. The next number in the pattern: 5, 6.5, 8, 9.5, ... is ____

A. 10

B. 10.5

C. 11

D. 11.5

2. Complete the following.

1. The value of the expression: $(25.6 - 1.9) \div 0.2 + 66.45$ is

2. 10,30,50, , — (In the same pattern)

[Cairo - Heliopolis 23]

The expression which matches the clue "Subtract 12.4 from the result of multiplying 8.5. by 3.2" is ——— and its value is -

4. In the pattern: 4,11,18,25,..., the rule is

5. The first operation to evaluate the expression: $[94 - 3.4] \div 2 + 55 \times 10$ is

6. In the pattern: 1,4,16,64,..., the rule is -

7. $3.2 \times 3 \div 6 + 1.4 = -$

[El Monofia - Shiben El Kom 23]

8. In the opposite table:

The rule of the pattern is

Input	7	9	11	13
Output	9	11	13	16

Choose the correct answer.

1. The first operation to solve $983 - 16 \div 8 + 11 \times 10$ is

(Carro - Al Khalifa & Al Mokattam 23)

A. add

B. subtraction

C. multiply

D. divided

(Cairo 23)

2. $1.2 + 0.24 \times 10 =$ A. 25

B. 2.6

C. 3.6

D. 4

3. The missing number in the pattern . 1.5 , 3 ,... , 6 is ...

B. 4.5

D. 3.5

Which expression matches the clue "Add 30 to 25 and divide the result by 0.5" [Giza 23]

A. $30 + 25 \div 0.5$

B. $0.5 \times [30 + 25]$

C. $(30 + 25) \div 0.5$.

 $0.30 \pm 0.5 \pm 25$ [Giza - Abo El Nomrous 23]

5. 5.4 × 0.1 – 0.32 = -

A. 0.68

B. 53.68

C. 0.22

D. 54.2

6. 15 ÷ 5 + 7 = -

C. 3

D. 10

7. The value of this expression: $(7.5 \times 10) + 2.3$ is

[El Menia 23]

(West Alexandria 23)

A. 77.3

A. 5

B. 9.8

B. 7

C. 19.8

D. 2.78

Answer the following questions.

- 1. Use order of mathematical operations to evaluate: 4.2 + 24 ÷ 4 + 8 [Alex. First Montaza 23]
 - Hany had 1,000 pounds. He bought 5 toys for 33 pounds each and 5 books for 27 pounds each. Write the expression represents the money left with him then evaluate it.
 - Write the expression matches the c.ue then evaluate it: Subtract 3.1 from 4.21 then [Alexandria - First Montaza 23] multiply the result by 0.1
- 4. Petra made 20.25 liters of mango juice She sold 10.25 liters and divided the rest into 4 bottles equally. How much mango juice is in each bottle? (Ismailia 23)

A

addend

عندقضاف

Any number being added. In the equation 6 + 8 = 14,6 and 8 are both addends, 14 is the sum.

algorithm

خوارزمية

A step-by-step method for computing

area

مساحة

The measure, in square units, of the inside of a plane figure.

area model

نموذج مساحة المستصل

A model of multiplication that shows each place value product.

Associative Property of Addition

خاصبة الدمج في عملية الجمع

States that changing the grouping of three or more addends does not change the sum.

Associative Property of Multiplication

خاصية الدمج في عملية الضرب

States that changing the grouping of three or more factors does not change the product.

benchmark

معيار

A known size or amount that can be used as a reference to help understand a different size or amount. Benchmarks can be helpful in estimation and in checking the reasonableness of answers.

benchmark fractions

كسور معبارية

Fractions that are commonly used for estimation Benchmark fractions are useful when comparing and ordering. One-half, one-third, one-fourth, three-fourths, and two-thirds are all benchmark fractions.

brackets

أفواس

Symbols used in pairs to group things together.

C

capacity

سعة

The amount of liquid a container can hold.

266

common factor

ملمشترك

Any factor that is shared by two or more number, Six is a common factor of both 12 and 24,

common multiple

غياعف مشترك

Any multiple that is shared by two or more number: Six is a common multiple of both 2 and 3.

Commutative Property of Addition

_{باض}ية الإبدال في عملية الجمع

States that changing the order of the addends does not change the sum.

Commutative Property of Multiplication

خاصية الإبدال في عملية الضرب

States that changing the order of the factors does not change the product.

compat ble numbers

أعداد لها قيمة معيزة

Numbers that are easy to compute mentally and are close in value to the actual numbers.

Compatible numbers can be used when estimating.

compose

بكون

To put together smaller numbers to make larger numbers.

Composite number

عدد غير أول

A positive number that is not prime

decompose

يحلل

To separate a number into two or more parts.

difference

فَرق

The amount that remains after one quantity is subtracted from another. The answer in a subtraction problem.

digit

رقم

Any of the symbols 0,1,2,3,4,5,6,7,8 or 9. [Also known as base 10 numerals.]

Distributive Property of Multiplication

خاصة التوزيع في الضرب

States that whether the numbers in parentheses are added before or after multiplication, the results are the same.

dividend

sombo

Anumber that is divided by another number. Fifty-six is the dividend in 56 ÷ 8 = 7

division

عملية القسمة

Splitting into equal parts or groups also known as fair sharing.

divisor

مقسوم عثيه

The number by which another number is divided. Eight is the divisor in 56 ÷ 8 = 7

equation

ممادلة

A mathematical sentence with an equal sign. The amount on one side of the equal sign has the same value as the amount on the other side. 4 + 3 = 7

equivalent

مكافئ

Having the same value.

estimate

تقدّر

To find a number close to an exact amount, an estimate tells about how much or about how many.

expanded form

صيغة ممتدة

A way to write numbers that shows the place value of each digit. 263 = 200 + 60 + 3

expression

تعبير رياضي

A mathematical phrase without an equal sign.

F-

factors

عوامل

Numbers we can multiply together to get another number

factor pairs

أزواج عوامل العدد

Sets of two numbers that multiply together to reach a certain product.

factor tree

شجرة العوامل

A diagram that shows all the factors of a number, with the number appearing at the top of the "tree" and factors of that number appearing in "branches" until each branch ends in prime number

finite

نهالی

Not infinite. Has an end.

fraction

كسر اعتبادي

A way to describe a part of a whole or a part of a group by using equal parts

G

greatest common factor (GCF)

العامل المشترك الأكبر

The greatest number that is a factor of two (or more) other numbers.

H

Hundredths

أجزاء من المائة

In the decimal numeration system, Hundredths is the name of the next place to the right of Tenths.

- 1

infinite

لا نهائی

Without an end. Not finite.

input

فدخل

The known variable you feed into an expression.

inverse operation

عملية عكسية

Opposite operations. They are operations that reverse the effect of another operations.

15

least common multiple (LCM)

المضاعف المشترك الأصغر

The smallest positive number that is a multiple of two or more numbers.

M_

midpoint strategy

أستراثيجية نقطة المنتصف

A method in which students use the midpoint of two numbers on number line to help visualize rounding numbers.

multiples

مضاعفات

Numbers created by multiplying two factors.

multiplication

عملية الضرب

The process of finding the product of two or more numbers "repeated addition".

267

multiplicative comparison

مقاربة باستخدام عملية الضرب

A way to compare quantities using multiplication.

numerical pattern

لمط عددي

A list of numbers that follow a certain sequence: or pattern.

Order of Operations

ترتيب إجراء العمليات

A set of rules tells us the order in which to compute.

- 1. For operations within parentheses a. multiply or divide from left to right b.add or subtract from left to right
- For operations within brackets a. multiply or divide from left to right b.add or subtract from left to right
- 3. For operations outside parentheses a.multiply or divide from left to right b.add or subtract from left to right

output

What comes out of the function; the solution.

parentheses

أقواس

Grouping symbols for operations. When simplifying an expression, the operations within the parentheses are evaluated first.

partial products

نانج عملية الضرب بالتجزئة Any of the multiplication results we get leading up to an overall multiplication result.

partial products model

نموذج إيجاد نانج عملية الضرب بالتجزئة

A model that breaks numbers down into their factors or paice values to make multiplication easier.

partia, quotients model

نمودج إيجاد خارج عملية القسمة بالتجزئة

A method of dividing in which multiples of the divisor are subtracted from the dividend, and then the partial quotients are added together.

268

pattern

A repeating or growing sequence or design.

place value

فيمة مكانية

The value of the place of a digit in a number.

powers of ten

قوى العند -ا

A set of mathematical notations that allow you to express any number as a product of multiples of 10.

prime factorization

التحليل إلى عوامل أولية Finding which prime numbers multiply together

to produce the origina, number,

prime number

عدد أولى

A whole number greater than 1 that has exactly two different factors, 1 and itself.

product

ناتج الضرب

The answer to a multiplication problem.

In $6 \times 7 = 42,42$ is the product.

quotient

خارج القسمة

The answer to a division problem.

reasonable

معقول

Makes sense according to the numbers and operation used.

regroup

بعيد التسمية

To rearrange numbers into groups of 10 when performing mathematical operations.

regrouping

إعادة التسمية

The process of making groups of tens when adding or subtracting two-digit numbers (or more).

remainder

باقى القسمة

The amount left over when one number is divided by another.

round

تقرب

A way to change a number to a shorter or simpler number that is very close to the original number

rule

فاعدة

something that happens every time (for example: 2,5,8,11 ... the rule is + 3).

sequence

تسلساء

Aset of numbers arranged in a special order or pattern.

simplify

Tenths

أجزاء من ألف

أحزاء من عشرة

The value of a digit that is the fourth position from the right when describing whole number place value.

In the decimal numeration. Tenths is the name of the place to the right of the decimal point.

Thousandths

standard algorithm for multiplication

To express a fraction in simplest form.

خوار مية الضرب المعيارية

Strategy for multiplying by using partial products or multiplying in parts.

standard form

صبغة قياسية

Acommon or usual way of writing a number using digits. 12,376 is in standard form.

SUITI

مجموع

The answer to an addition problem.

unknown

مجمول

Part of an expression or equation that has to be found; a variable that can be represented in a problem by a letter.

value

How much a digit is worth depending on where it is in a number; the result of a calculation.

variable

متغير

A letter or symbol that represents a number. for example: in $5 \times b = 10$, b is the variable.

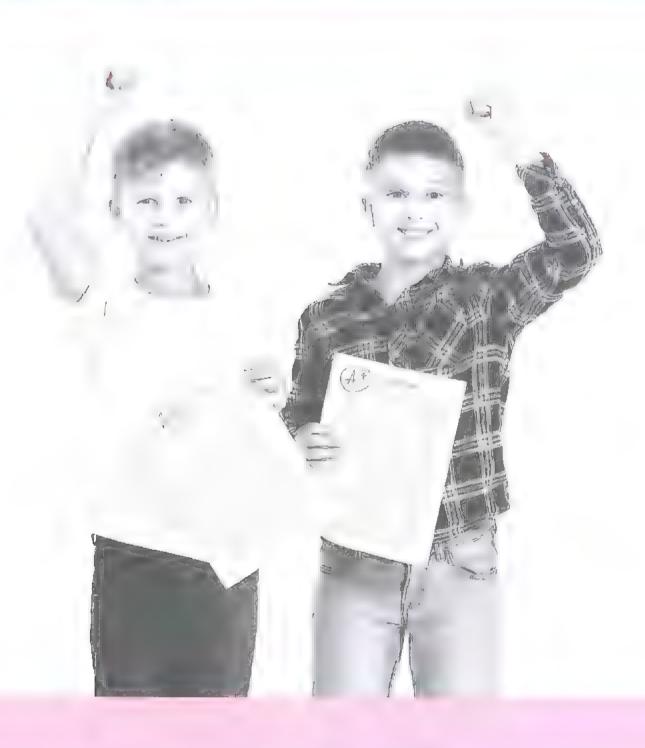


Mathematics

1 Step by Step Revision



Cumulative Assessments



Cumulative Assessments



Cumulative Assessment Till lessons (1 & 2) unit 1

1. Complete.

- a. In 562.417, the digit 7 is in the place and its value is
- b. The decimal form of 5 and 17 thousandths is
- c. The word form of 8.005 is
- d. In 36.291, the digit 9 represents

Put (√) for the correct statement and (X) for the incorrect statement.

- a. Seventy two and seventy two thousandths = 72.72
- b. The place value of the digit 6 in the number 5.216 is Thousandths.
- c. The value of the digit 2 in the number 51.216 is thousandths.
- d. 5 Hundreds, 2 Tens, 3 Ones, 6 Tenths, 2 Thousands = 523.62
- e. Seven hundreds and seven hundredths in the standard form is 7.700

3. Join.

- a. Five tenths
- **b.** Five tens
- c. Five hundredths
- d. Five thousandths

- 50
 - 0.5
- 0.005
- 0.05

4. In the number 59.841

- a. What is the value of 1?
- b. What does the digit 9 represent?
- c. What is the value of the digit in the Hundredths place?

5. Write each of the following in word form.

- a. 4.014
- **b.** 0.207

	Drift (./\	for the	correct	statement and	(X)	for the	incorrect	ctatement
-	F VIC (~ /	CAL CITE	2011661	exampling it all u	1717	TOI LITE	HIGOREGUE	선생이 하는데 가는데 가다

a.
$$37.906 = 30 + 7 + 0.9 + 0.6$$
 (

b.
$$306 + 0.3 + 0.006 = 306.306$$

c.
$$23.51 \times 10 = 2.351$$

2. Complete.

a.
$$3.7 \div 10 =$$

[decimal form]

place and its value is

f.
$$5,000 + 20,000 + 0.9 + 6 + 0.001$$

3. In the following problem, record the number in the place-value chart and decompose the number 17.439 in expanded form and in another way then, answer the guestions.

Thousands	nds Ones			•		Decimals		
0	H T		0	•	Tenths	s Hundredths Thousand		
				6				

- a. 1st way [expanded form]:
- b. 2nd way:
- c. What is the value of 3?
- d. What does the digit 4 represents?
- e. What is the value of the digit in the Thousandths place?
- f. The value of the digit 4 [increased/decreased] when dividing by 10 from to

Cumulative Assessment



Till lesson 5 unit 1

1. Compare. Write (<,> or =).

a. 0.005 () 0.05

b. 10.1 () 10.011

c. 3.198 (/ 3.2

d. 24.6 () 24.600

e. 14 315 41.315

- f. 20nes ,2 Hundredths 2.2
- g. Fifteen thousandths \bigcirc 0.01 + 0.005

2. Choose the correct answer.

- a. 36.214 × 100 =
 - A. 36.214
- B. 362.14
- C. 3,621.4
- **D.** 36,214

- b. 5.361>
 - **A.** 5.37
- B. 5.362
- C. 5.366
- **D.** 3.561

- c. $316 \div 10 =$
 - A. 3.16
- B. 31.6
- **C**, 3,160
- **D.** 0.316
- d. In the problem 74.8 \div 10 The value of the digit 4 decreased from 4 to
 - A. 40
- B. 4
- C. $\frac{4}{100}$
- **D.** 0.004

3. Order from least to greatest.

- a. 32.141, 23.141, 32.411, 23.411
- b.1.351, 1.35, 1.531, 1.315

Use the place-value chart to solve the following problem. Fill in the blanks to show how the value of each digit also changed.

Thousands		Ones		Dec	imals
0	Н	Т	0	Tenths	Hundredths

- a. The value of the whole number
- [increased/decreased] when multiplying by 10

- b. The value of the digit 5
- (increased/decreased) when multiplying by 10

- from
- to

Comulative Assessment	Till lesson 6 unit 1
-----------------------	----------------------

1	FARM	ndo la
200	COIL	plete.

a.
$$76.514 \approx$$
 [to the nearest Hundredth]

c.
$$1018 \approx$$
 [to the nearest whole number]

d.
$$731.56 \div 100 =$$

Put (/) for the correct statement and (X) for the incorrect statement.

a.
$$30 + 5,000 + 9 + 0.03 + 0.004 = 5,039.304$$

b. The value of the digit 5 in the number
$$36.251$$
 is 0.05 ()

4. Label the mid point of the number line. Place the decimal number 3.54 at its proper location. Then, round it to the nearest tenth

3.54 ≈

1 35

. Choose the correct answer.

- a. In the number 432.519, which digit is in the Hundredths place?
 - A. 4
- B. 3

C. 5

D. 1

b.
$$701,008 = 700 + 1 +$$

- A. 0.080
- **B.** 0.800
- C. 8

D. 0.008

- c. 5 ones 5 thousandths < 5.05
 - A. >
- B. <
- C. =
- d. 3.8 $9 \approx 3.85$ (to the nearest Hundredth)
 - A. 3
- B. 4

C. 5

D. 6

June (1) - Assessment



Till lessons 7 to 9 unit 1

- Find the result of each of the following.
 - a. 15.36
 - + 7.97

- **b.** 38.56
- + 19.097

c. 2.65 + 9.3 =

d. $17.4 \pm 5.6 -$

- 2. Complete
 - a. 7 Hundredths + 62 Thousandths =
- Thousandths

- b. 1472+
- = 15.89
- c. 34.567 ≈
- [to the nearest Hundredth]
- d. The place value of the digit 0 in the number 3.506 is
- e. 36.24 ± 10 =

- f. 500 + 5 + 0.5 + 0.005 =
- Use the place-value charts to solve each problem. Fill in the blanks to show how the value of each digit also changed.

189:100=

Thousands			-	Decimals		
0	Н	T	0		Tenths	Hundredths
				•		
		_			·	

a. The value of the whole number

[increased/decreased] when dividing by 100

b. The value of the digit 8 from to

(increased/decreased) when dividing by 100

c. The value of the digit 9 from to

[increased/decreased] when dividing by 100

d. The value of the digit 1

(increased/decreased) when dividing by 100

from to

4. Mathew has 136.20 ...E. His brother Giovann e has 64.30 L.E. What is the total they nave all together?

Chimbletty Assessment



Till lessons 10 to 12 unit 1

1. Find the result of each of the following.

c.
$$5.473 - 3.362 =$$

2. Complete.

a.
$$2.45 \times 10 =$$

$$-41.41 = 3.8$$

c. The place value of the digit 6 in the number 35.264 is

d. 55.55 = [expanded form]

e. $34.179 \approx$ [to the nearest Tenth]

f. 5 Hundredths – 24 Thousandths = Thousandths.

Compare Write (< , > or =).



$$10 - 1.01$$

b.
$$0.2 - 0.05$$



$$4.9 - 4.75$$

c.
$$7.9 + 2.3$$

$$11.7 - 1.3$$

4. Choose the correct answer.

c.
$$340 + 0.3 + 0.04 =$$

Put (\checkmark) to the correct statement and (X) to the incorrect statement.

- a. The Round of 4.519 to the nearest Tenth is 4.52
- **b.** 3.000 + 300 + 3 + 0.3 + 0.003 = 333.303
- c. 516.7 = 516.700
- d. 9 Hundredths 65 Thousandths = 25 Thousandths.

2. Complete.

- a. The decimal form of 7 and 7 hundredths is
- **b.** $7 \div 100 =$

c. 2.463 ≈ [to the nearest whole number]

d. 3 Hundredths + 36 Thousandths =

Thousandths.

Compare Write (< , > or =).

a. 3.5 - 2.1

3.5 + 2.1

b. 31.46×10

 31.46 ± 10

c. 51.5 + 5.15

5.15 + 51.5

d. 2.14×10

 $214 \div 10$

4. Choose the correct answer.

a. 71 hundredths + 9 hundredths -

tenths.

- A. 88
- B. 80
- C. 800
- D. 8

- b. 14.27 +
- = 15.89
 - B. 1.6
- C. 1.62
- D. 1.65

c. 55.5 5.55 =

A. 1.53

- A. 50.05
- **B**. 50.5
- C. 49.95
- D. 49.59

- d. 7 tents 7 hundredths =
 - A. 6.3

- C. 0.36
- D. .0.63

Mona had 95.5 L.E. She spent 35.75 L.E. Find the remainder with ner.

Eslam has 29.75 L.E. and Sameh has 15 $\frac{1}{2}$ L.E. Find How much money they have together?

Cumulative Assessments



Till lessons (1 & 2) unit 2

- Put (\checkmark) to the correct answer and (X) to the incorrect statement.
 - a. The mathematical statement "k = 5.8 + 7.16" represent an equation.

b. If
$$8.23 + P = 9.25$$
, then $P = 1.02$

()

c. The equation which represent the bar model $\begin{bmatrix} 7.26 \\ a & 3.5 \end{bmatrix}$ is a + 3.5 = 7.26

.

d. 3 hundredths - 25 thousandths = 22 thousandths.

(

e. The value of the digit 6 in the number 3.162 is $\frac{6}{100}$

(

Solve the following equation using inverse operation strategy.

a.
$$75.85 + k = 90.90$$

b.
$$1.5 + 13.25 + m = 20.75$$

3. Solve the following equations.

a.
$$h = 356 = 2.04$$

b.
$$2.3 + 3.1 = 1.5 + v$$

4, Complete.

b. The value of the digit 0 in the number 46.105 is

c.
$$3.5 - 1.365 =$$

d. The word form of the decimal 13.013 is

e.
$$700 + 7 + 0.07 =$$

- 3. If we subtract 3.2 from a number to get 2.7, then write the suitable equation and solve it.
- 6. If we subtract a number from 7.5, we get 4.91, then write the suitable equation and solve it.

Companys Atsessmen



Till lessons (3 & 4) unit 2

1. Match.

a.
$$4 2.361 + m = 3.52$$

b.
$$\sqrt{7.3} - m = 2.456$$

c.
$$m-1.347=2.141$$

d.
$$m + 9.241 = 10.36$$

2. Find the value of each variable in the following part - part whole tables.

3. Choose the correct answer.

a.
$$7,000 + 700 + 70 + 0.007 =$$

4. Put (/) to the correct statement and (X) to the incorrect statement.

c. The mathematical statement "
$$m=0.4-1.17$$
" represent an equation.

d. 70 thousandths
$$-50$$
 thousandths -2 hundredths.

5. What is the story?

Write a story problem for the following equation, then solve it $3.25 \pm 6.25 = n$

Till lessons (5 & 6) unit 2

.. Find all the factors of the number 18.

— Factor pairs tree —	 Factor rainbow 	 Factor T-chart	

- 2. Factorize each of the following numbers to the prime factors.
 - a. 36 36 =

- b. 15 =
- Put (√) to the correct statement and (X) to the incorrect statement.
 - a. 2 is a factor of 17
 - b. 3 is a prime number.
 - c. 25 is a composite number.
 - d. 65.461 > 65.416
 - e. 3.351 = 3 + 0.3 + 0.05 + 0.01
- 4. Complete.
 - a. is the only even prime number.
 - b. The prime factors of 14 are and
 - c. 3 thousands and 3 thousandths =
 - d. 9 hundredths 81 thousandths = Thousandths.
 - e. The smallest prime odd number is
- Find the missing factors represented by the variables.
 - a. b × 8 = 24 b =

b. 32 + a = 4.7

c. 12 × N = 12 N =

| d, m = 1.41 = 2.7 | m =

e. 38.1 – K = 351

f. 5.5 ± L=7

K -

L=

Factorize the following numbers to their prime factors, then find the GCF for them.

- a. 12 and 18
 - 12 =
 - 18 =
 - GCF =

- **b.** 28 and 42
 - 28 =
 - 42 =
 - GCF =

Find the common factors and the greatest common factor GCF of 8 and 24

- a. Factors of 8:
- b. Factors of 24:
- c. Common factors:
- b. GCF:

Put (✓) to the correct statement and (X) to the incorrect statement.

- a. 0 is a common factor for all the numbers.
- b. The GCF of 4 and 8 is 4
- c. 1 is the GCF of 9 and 18
- **d.** $32 \div 100 = 0.32$
- e. $54.369 \approx 54$ [to the nearest whole number]
- f. 5 + 50 + 500 + 0.5 + 0.05 = 555.550

Two numbers $_{3}$ the prime factors of the first are 2,3 and 5 and the prime factors of the second are 2,2,3 and 5, then:

a. The first number =

b. The second number =

c. GCF =

Find the missing factors represented by the variables.

- **a.** x + 2.1 = 3.46
 - $\chi =$
- c. $n \times 123 = 0$
 - $\mathbf{p} =$

- **b.** $5 \times m = 35$
 - m =
- d. y = 4.62 = 1.7
 - y =

Cumulative Assessment 12 Till lessons (8 & 9) unit 2

.. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

	a. 34 is a multiple of 9	{)	b. 12 is a common multiple of 4 and 6	(
	c. The LCM of 6 and 15 is 60	()	d. 13 is a prime number.	[
	e. The GCF of 3 and 4 is 12	1		f. There are no common multiples of 7 and 5			
2.	Complete.						
	a. The common multiple for all numbers is						
	b. The common factor for all numbers is						
	c. $7,000 + 70 + 0.7 + 0.007 =$						
	d. 9561 ÷ 100 =						
	e. 3.5 + 16.014 =						
	f. 7 hundredths – 35 hundredth = thousandths.						
	g. 27 = 3 × hence 27	7 is a	mul	tiple of and is also a multiple of			
7	August the Fall owing						
٥.	Answer the following.						
	a. List the first seven multiples of 6						
	b. List the first seven multiples						
	c. List the common multiples of	ıf 6 a	ind 4	(other than 0)			
	d. Find (LCM) of 6 and 4						
4.	Find LCM of 12 and 9.			[12] [9]			
	12 =						
	9 =						
	LCM =						
	Use the prime factorization of	each	of	the following numbers to find the LCM.			
	a. 8 and 24			b. 10 -12 and 15			
	8 =			10 =			
	24 =			12 =			
	LCM =			15 =			
				LCM =			

Use the prime factorization of each of the following numbers , then find the GCF and LCM :

- a. 12 and 14
 - 12 -
 - 14 -
 - GCF=
 - LCM =

- b. 10 and 15
 - 10 -
 - 15 -
 - GCF =
 - LCM =
- 2. Two numbers, the prime factors of the first are 2, 2, 5 and 5 and the prime factors of the second are 2, 2, 5 and 7.
 - a. The first number -
 - c. Their GCF -

- b. The second number -
- d. Their LCM =

- 3. Complete.
 - a. The place value of the digit 7 in the number 3.267 is
 - b. 3 hundredths 25 thousandths =

thousandths.

- c. The common factor for all numbers is
- d. The smallest prime number s
- e. 7.3 3.71 =
- f. $26.349 \times 100 =$
- 4. Two clocks are turned on the same time, on clock chimes every 15 minutes, the other clock chimes every 25 m nutes in how many minutes will they chime together? Do you have to find the GCF or the LCM? What is the answer?
- 5. Giovanni has 18 oranges and 12 bananas. He wants to make fruit baskets with the same number of each fruit in each basket. What is the greatest number of fruit baskets he can make? Do you have to find the GCF or the LCM? what is the answer?

Cumulative Assessments

ET UNIT 3

Cumulative Assessment



Till lesson 1 unit 3

1. Find each product of the following expressions:

b.
$$3 \times 10,000$$

d.
$$10 \times 12$$

2. Match:

3. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

a.
$$13 \text{ kg} = 13,000 \text{ g}$$

c.
$$7,000 \text{ m} = 7 \text{ km}$$

e.
$$5 \times 100 = 500$$

g.
$$70,000 + 700 + 7 + 0.07 = 777.7$$
 ()

i.
$$62.946 \approx 62.9$$
 [to the nearest whole number]

4. Complete.

e. The common multiples of all the numbers is

f. The LCM of the two prime numbers 3 and 7 is

q. 5 hundredths - 5 thousandths =

thousandths

5. If 10 millimeters makes 1 centimeter, How many millimeters are there in 6 centimeters?

6. Elen ran a 7-kilometer race on Sunday. If there are 1,000 meters in 1 kilometer. How many meters did she run?

Choose the correct answer.

a.
$$4 \times 354 = [4 \times 300] + [4 \times 50] + [$$

A. 4×4

 $B.4 \times 40$

C. 4×400

D. 40×40

b.
$$(100 + 70 + 6) \times (20 + 9) =$$

A. 176 × 209

B. 176 × 29

C. 176 × 92

D. 176 × 902

c.
$$7.000 + 50 + 400 + 0.6 + 0.07 =$$

A. 754.67

B. 7.540.67

C. 7,450.67

D. 7,450.607

d.
$$9,571 \div 100 =$$

A. 957,100

B. 957.1

C. 95.71

D. 9.751

e.
$$5.971 \approx$$
 ___ [to the nearest tenths]

A. 5.97

B. 5.10

C. 5.9

D. 6

2. Put (/) to the correct statement and (X) to the incorrect statement.

a.
$$17 \times 509 = [17 \times 500] + [17 \times 9]$$

e.
$$275 \times 12 = [100 + 100 + 70 + 5] \times [10 + 2]$$

$$f. 15 \times 1,000 = 1,500$$

Solve each of the following problems using an area model.

c. 23×44

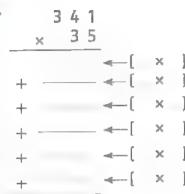
Use the distributive property to solve each of the following.

Cumulative Assessment



Till lesson 4 unit 3

Solve using partial products Model to Multiply.



2. Choose the correct answer.

- a. What is the ones digit of the product of 953 × 23 will be without solving the whole problem?
 - A. 0
- B. 2

C. 3

D. 9

- **b.** $15 \times 21 =$
 - A. 135
- B. 513
- C. 315
- **D.** 3,015

- c. 3.496 =
 - A. 152×23
- **B.** 152×32
- $C. 215 \times 23$
- D. 215 × 32

- d. $9,702 \div 10 =$
 - A. 97.2
- B. 970.2
- C. 97.02
- D. 9.702

- e. 43 kg =
- A. 43
- **B.** 4300
- C. 43,000
- **D.** 43

Use the following area models to write the distribution equation.

a.

b.

- 4. Giovanni bought 24 boxes of soft drinks for 115 L.E. each. How much money did Giovanni pay?
- 5. Match.



31×25 325

13 × 52

676

31 × 52

1,612

Cumulative Assessment

1. Put (1) to the correct statement and (X) to the incorrect statement.

a. If
$$5.36 + m = 9.74$$
, then $m = 4.38$

d.
$$1,234 \times 25 = 30,850$$

e. The value of the digit 6 in the number 924.63 is
$$\frac{6}{100}$$

f.
$$12 \times 37 = [10 + 2] \times [30 - 7]$$

2. Find the result.

a. 12 and 18

b. 60 and 45

3. Find the result.

a.
$$3,241 \times 54$$

d.
$$85 - 3.64$$

$$f. 5 = 3.6$$

4. Determine the values of the missing digits and then find the product.

$$A =$$

5. Fill in the area model starting at letter A.

	300
_	_



10

E.

Final product:





Till lesson 7 unit 3

4	- 1 1 .
4	Complete.
All District	

a. There are

grams in 15 kilograms

b.

$$\times$$
 9 = 900

c. $120 \times 30 =$

d. 9.3 - 5184 =

e.
$$[3 \times 200] + [3 \times 50] + [3 \times 7] = 3 \times$$

2. Put (1) to the correct statement and (X) to the incorrect statement.

a. 13 is a prime number.

) **b.** 321 + 0.123 = 0.444

()

c. $35 \times 21 < 53 \times 12$

()

d. The LCM of 4 and 12 is 48

()

e. If m - 2.4 = 3.6 then m = 6

3. Choose the correct answer.

a. The place value of the digit 4 in the number 98.764 is

A. 4

B. $\frac{4}{1000}$

C. 0.04

D. 4₀₀₀

b. The standard form of the number six thousands and six thousandths is

A. 6.6

B. 60.06

C. 600.006

D. 6000.006

c. Hany runs 110 minutes every day. What is the number of running minutes in 15 days?

A. 1.065

B. 1,605

C. 1,560

D. 1,650

d. What is the unknown value in the area model of 21 × 53?

A. 60

B. 600

C. 6

D. 6.000

20

1

1.000 ? 50 3

3

50

e. 7 Hundredths - 7 thousandths =

thousandths.

A. 7

B. 0

C. 63

D. 77

4. A factory produces 4,550 toys every month. Another factory produces 7,350 toys every month, Find the difference between their product in ten months.

5. Sameh has 300 pounds to spend on new clothes. He buys 12 pair of socks for 21 pounds each. What is the left money with sameh now?

Cumulative Assessments



Chandle we Assest in the



Till lesson 1 unit 4

1. Complete.

- a. In the equation $36 \div 4 = 9$, the divisor is
- **b.** The dividend in the equation $25 \div 4 = 6 R1$ is

2 Put (/) to the correct statement and (X) to the incorrect statement.

a. The division equation which represent the bar diagram is $150 \div 5 = 30$

- b. Dividend = Quotient × divisor + remainder
- c. 5 hundredths 35 thousandths = 30 thousandths
- **d.** $24.561 \approx 24.6$ [to the nearest tenths]
- e. 1234 11 = 2468
- f. The place value of the digit 3 in the number 1.234 is tenths

Find the result of each of the following.

b.
$$309 \times 21 =$$

c.
$$41.14 + 4.114 =$$

4. While dividing a number by 3. Mathew got a quotient of 7 and a remainder of 2 What is the number?

Find the GCF and LCM for the numbers 18 and 30.

Cumulative Assessment



Till lesson 2 unit 4

10

2,835 735

-2.100 - 210

10

525

-210

315

315

-210 - 105

105

1. Choose the correct answer.

a. In the opposite area model,

 $which \ choice \ best \ represents \ the \ problem \ ?$

A.
$$2,835 \div 21 = 100,305$$

B.
$$2,835 \div 21 = 180$$

C.
$$2.835 \div 21 = 135$$

D.
$$2,835 \div 12 = 135$$

b.
$$5,555 \div 55 =$$

c. In the equation $666 \div 19 = 35 R1$ the remainder is ____

e.
$$9,000 + 50 + 300 + 0.6 + 0.01 =$$

2. Use the area model strategy to solve the following division equations.

a.
$$1,035 \div 9$$



3. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

- a. If $3 \times 8 = 24$ then $3 \times 80 = 240$. (
- b. 7 hundreds and 7 hundredths = 700 07

c. $205 \times 11 = 2,255$

- d. 754 3.41 = 4.13
- e. 19 is a composite number.
- f. The LCM of 3 and 5 is 30
- ()
- 4. If 16 plums are packed 4 in a bag, then now many bags will there be?

- ... Use the partial quotients strategy to solve the problems.
 - a. 4,464 ÷ 36

and the second

b. 2,129 ÷ 23

- Choose the correct answer.
 - a. The next step in the partial quotient model when we divide 3,650 ÷ 25 is
 - A. Multiply 25 × 40

 - C. subtract 40 25

- B. Divide 150 : 25
- D. Add 150 + 40
- 25) 3,650 -2,5001001, 150 - 1, 0 0 0 40 150

- b. 91,000 91 ×
 - A. 10
- B. 100
- C. 1.000
- **D.** 10,000

- c. 7 km =
 - A. 7,000
- B. 700
- C. 70
- D. 7

- **d.** If $35 \times 121 = 4,235$ then $4,236 \div 35 =$
 - A. 121
- B. 121 R1
- C. 121 R2
- D. 121 R3
- 3.16 e. By using the bar model the value of m is 2.8 m
 - A. 2.8
- B. 1.64
- C. 1.8

D. 0.36

- 3. Find the result of.
 - a. $2,401 \times 36 =$
 - c. 17.51 + 36.098 =

- **b.** $3,921 \div 35 =$
- **d.** 214.6 34.14 =
- 4. Compare Write (<, > or =).
 - a. 3.4 ± 0.21
- 0.34 ± 2.1
- b. 312 × 11
- 346×11

- c. 36 ÷ 9
- $36 \div 5$
- d. 4+0.4+0.01+0.003
- 4.413
- Fill all factors of each of the following numbers. (use a suitable way).
 - a. 12

b. 24

Fumulative Nasesement Till lessons (5 & 6) unit 4

- 1. Write the division equation that matches the multiplication problem.
 - a. $24 \times 143 = 3.432$
- b.
- 2. Divide using the standard algorithm for division.
 - a. 25)535
- **b.** 46 8,004
- C. 14) 1, 4 1 4

- Choose the correct answer.
 - a. The division equation that matches $113 \times 24 = 2,712$ is =

A.
$$113 \div 24 = 2,712$$
 B. $113 \div 2,712 = 24$ **C.** $24 \div 113 = 2,712$ **D.** $2,712 \div 24 = 113$

C.
$$24 \div 113 = 2,712$$

D.
$$2,712 \div 24 = 113$$

b. $1.001 \times 25 =$

d. 3.6 + 5.411 =

A. 17

B. 170

e. 5 hundreds and 5 hundredths

4. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

a.
$$5 - 1.234 = 4.234$$

() b.
$$3 \text{ hundredths} - 3 \text{ thousandths} = 0.027 ($$

c.
$$123 \times 21 = 2,583$$

5. Solve each of the following equations.

a.
$$K + 2.14 = 4.12$$

b.
$$m - 7.02 = 3.2$$

1. Find the result of each of the following.

2. Complete.

a. In the division equation
$$29 \div 3 = 9$$
 R2 the remainder is

b.
$$754.6 \div 100 =$$

d. If
$$125 \times 5 = 625$$
, then $_{2}626 \div 5 = 125$ R

3. Match.

4. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

a.
$$3\frac{7}{100} \approx 3.07$$
 [to the nearest tenths]

b. 1,515 ÷ 15 = 101

c. 1 is a prime number. ()

d.
$$24 \times 65 - [4 \times 5] + [4 \times 60] + [20 \times 5] + [20 \times 60]$$

In one year, a factory used 13.250 meters of cotton, 6,850 fewer meters of silk than cotton, and 1,500 fewer meters of wool than silk.

How many meters of fabric were used in all?

Cumulative Assessments

se UHIT 5

Cumulative Assessment



Till lessons 1 to 3 unit 5

1. Complete.

a.
$$0.576 \times 100 =$$

b.
$$1.2 \times 0.2 =$$

c.
$$0.25 \times 4 =$$

d.
$$0.01 \times 0.1 =$$

e.
$$700 + 5,000 + 60 + 9 + 0.04 + 0.1 =$$

(to the nearest tenths)

2. Choose the correct answer.

$$= 394$$

A. 1

3. Put the suitable relation (<,> or =).

a.
$$4.4 \times 0.1$$

$$0.5 \times 0.01$$

e. 690 ÷ 15

960 ÷ 15

4. Find the unknown letters in each of the following.

a.
$$496 = 4 \times [A] + 9 \times [B] + 6$$

b.
$$305.09 = 3 \times [m] + 5 + 9 \times [n]$$

$$m =$$

c.
$$24.306 = 2 \times [K] + 4 + 3 \times [L] + 6 \times [r]$$

d.
$$7.043 \times 1000 = [S]$$

- a. If $19 \times 4 = 76$ then $1.9 \times 0.4 =$
- **b.** If $152 \times 7 = 1.064$ then $1.52 \times 0.7 =$
- c. $0.479 \times 100 =$

d. $23.46 \approx$ [to the nearest tenths]

- e. 16 thousands and 16 thousandths
- f. 18.3 7.461 =
- ? Match. (By using the fact $\begin{bmatrix} 143 \times 6 = 858 \end{bmatrix}$)
 - 143×0.6 a. 💠
 - b. 1.43×0.6
 - 14.3×0.6
 - d. 🛊 143×60

- 8580 1. •
- 85.8
- 8.58
- 0.858
- 3. Look at the area models, use the information provided to find the missing numbers. Then, Find the product.
 - a.

	2	0.5
?	14	?
0.4	?	0.2
pr	oduct;	1

b.

	2	?	0.08
?	6	1.5	?
0.5	1	?	0.040
	product	*	'

- 4. Find the result of each of the following.
 - a. 321.9 + 15.84 =
 - c. $125 \times 34 =$

- b. 25.41 17.941 -
- d. $3830 \div 25 -$

- 5. Use an area model to find.
 - a. 4.2 × 5.6

b. 1.2 × 3.25

Cumulative Assessment

Till lessons (6 & 7) unit 5

- 1 By using the standard algorithm, find the product.
 - 1. 7 4 3. 5

b.		5	3.		8
	×			7.	9

С.		2.	0	3
	×		0.	7

- 2. Compare the product by putting (< , > or =).
 - a. 0.75×0.2
- 7.5×0.2
- b. 4.2×153.2
- 4.2×15.32

- c. 13.9×0.4
- 1.39 × 4
- d. 0.234×5
- 23.4×0.5

- **e.** 1.01 × 0.1
- 10.1×0.1
- 3. Complete.
 - a. 30 + 3,000 + 0.3 =
 - c. 75.214 × 100 =
 - e. 6 hundredths 6 thousandths = thousandths.
- **b.** 21 hundredths +5.4 =
- d. If $25 \times 5 = 625$, then $626 \div 5 = 25$ R

- 4. Choose the correct answer.
 - a. 3.21 × 0.9 ≈

(to the nearest tenths)

- A. 2.889
- B. 2.8
- C. 2.9
- D. 2.89
- b. The decimal point in the product of 0.01 × 0.1 is after
- decimat places.

- A. 1
- B. 2

C. 3

D. 4

- c. $0.2 \times 1.12 =$
 - A. 224
- B. 22.4
- C. 2.24
- D. 0.224

- **d.** If $35 \times 47 = 1645$, then $3.5 \times 0.47 = 1645$
 - A. 164.5
- B. 16.45
- C. 1.645
- D. 1645

- e. 5 thousandths × 4 =
 - A. 0.02
- B. 0.2
- C. 2

D. 20

5. By using the opposite Area model find:

m	+	n	=

2 0.7 6 2.1 0.4 8.0 \mathbf{n}

- a. 145 cm = 145 × m =
- **b.** 15.6 kg + 1,800 g = kg.
- c. The place value of the digit 9 in the number 35.29 is
- d. 3.003 = -

(word form)

- e. 7.777 × 100 =
- f. If $18 \times 69 = 1,242$, then $1.8 \times 0.69 =$

2. Choose the correct answer.

- a. 17.93 kg —
- A. 179.3
- **B.** 1.793
- C. 17,930
- D. 179,300

- b. 3,465 mL =
- L
- A. 3.465
- B. 34.65
- C. 346.5
- D. 3,465

- c. 900 + 90 + 9 + 0.9 =
 - A. 9.999
- B. 99.99
- C. 999.9 hundredths.
- D. 9,999

- d. 5 tenths 35 hundredths -
- **C**. 30
- D. 15

- e. $4.224 \div 12 =$
 - A. 235

A. 5

B. 352

B. 35

- C. 532
- D. 32

- f. $0.01 \times 0.1 =$
- C. $\frac{1}{1,000}$
- D. 1

3. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

a. 341.65 > 341.56

-) + **b.** $0.46 \,\mathrm{m} < 430 \,\mathrm{mm}$

- c. If $31 \times 25 = 775$. then $_{2}777 \div 31 = 25 \text{ R2}$
- d. $1.2 \times 0.3 0.36$

e. Two hundred seventy five tents = 270 5 (

4. Order each of the following from least to greatest.

- a. 0.65 km 590 m 0.8 km 705 m
- b. 325.7 mL, 0.59 L, 806 m_, 0.55 L

Till lesson 10 unit 5

		_					
1.	Choose the correct a	ınswer.					
	a. 1.3 – 0.85 =	B 455		D 400			
	A. 0.54	B. 1.55	C. 0.45	D. 1.88			
	b. $3,330 \div 32 = 104 \text{ F}$						
	A. 2	B. 3	C. 4	D , 5			
	c. If $x = 2.456 = 1.987$, then x =					
	A. 4.334	B. 4.453	C. 4.444	D , 4443			
	d. $[80 \times 10] + [80 \times 5]$	$] + [3 \times 10] + [3 \times 5]$] —				
	A. 85 × 13	B. 83 × 15	C. 83 × 51	D. 38 × 51			
	e. 7,345 kg =	g.					
	A. 7345	B. 73.45	C. 734.5	D. 07345			
2	Complete.						
4.	a. 36.365 ≈ 36.4 [to t	he pearact	1.				
	b. If the price of 15 bo			ach hool.			
	equals		, then the price of ea	ach book			
	c. The GCF of 6 and 1						
	d. 36 × = =						
	e. 3,333 mL =	1.					
3.	Put (\checkmark) to the correct	t statement and (X) to the incorrect s	statement.			
	a. $35 \times 76 = [3 \times 7] +$	$[3 \times 6] + [5 \times 7] + [5 \times 7]$	5 × 6]		()
	b. 10 is a common m	ultiple of 2 and 5			()
	c. $3.45 + x = 6.4$ is an	equation.			(,	- }

Cumulative Assessment

d. If $3,333 \div 15 = 222 R3$, then $15 \times 222 = 3,333$

e. 3 hundredths + 50 thousandths = 0.08

4. Mona made a liter of sugar can juice. She drank 570 milliliters. Her mother drank 0.33 Liters. How much sugar cane Juice is remaining?

5. If the weight of Hany, Wael and Heba are 85.7 kg, 94,560 g and 75.6 kg, what is the total of their weights?

Cum Jative Assessment



Till lessons (11 & 12) unit 5

1. Find quotient of each of the following.

a.
$$5.8 \div 100 =$$

a.
$$5.8 \div 100 =$$
 b. $0.7 \div 0.001 =$

c.
$$12.7 \div 0.01 =$$

d.
$$0.7 \div 10 = -$$

2. Solve the following problems:

3. Complete.

b.
$$\div 0.01 = 327$$

g.
$$0.39 \times = 0.039$$

h.
$$0.75 \div = 750$$

4. Compare. put (< , > or =).

a. 25,300cm.

2.53 m.

b. 756.421 × 100



c. The value of 3 in 5.134

the value of 3 in 5.314

d. 58.3 ± 0.001

 583×1000

e. The smallest prime number.

The smallest prime odd number.

f. 637 hundredths.

 637×0.01

5. The price of one toy is 15.5 L.E. find the price of 100 toys.

: Giovanni walked 7.25 km. in 10 days equally, what is the covered distance in meters did he walk in each day?

Cumulative Assessment



Till lessons (13 & 14) unit 5

1. Use the shown models to write the quotient for each divisions.

a.
$$1.5 \div 0.3 =$$

b.
$$2.1 \div 0.7 =$$

- 2. Choose the correct answer.
 - a. This model represents

A.
$$8 \div 2 = 4$$
 B. $0.8 \div 0.2 = 4$

C.
$$80 \div 20 = 4$$

C.
$$80 \div 20 = 4$$
 D. $8 \div 0.2 = 40$

b.
$$1.5 \div 0.5 =$$

c.
$$2 \div 0.5 =$$

d.
$$3.2 + 4.05$$
 $7.05 + \frac{1}{4}$

Put (/) to the correct statement and (X) to the incorrect statement.

a.
$$4 \frac{8}{100} \approx 4.1$$
 [to the nearest tenths]

b.
$$0.05 = 5$$
 thousandths.

c.
$$134 \times 20 = 268$$

d. $5.2 - 3.765 = 1.435$

e. If
$$45 \times 21 = 945$$
, then $4.5 \times 0.21 = 0.945$

4. Find the result.

a.
$$213.6 + 14.57 -$$

c.
$$3214 \times 15 =$$

d.
$$3012 \div 12 =$$

c.
$$\div 0.1 = 0.84$$

_ (to the nearest hundredths) d. 2÷0.3≈ ---

weeks.

Find the quotient of each of the following:

d.
$$7.4 \div 5.1$$
 (to the nearest hundredth)

3. Choose the correct answer.

a.
$$80 \div 0.08 =$$

b.
$$30.24 \div 3.6 =$$

d. The prime factorization of 6 is

f. If
$$3.012 \div 12 = 251$$
, then $251 \times 12 =$

- 4. Omnia has two strips of cloth. One is 25 centimeters wide, and the other is 45 cm wide. She wants to cut both pieces into strips of equal width that are as wide as possible. How wide should she cut the strips? Do you have to find the GCF or the LCM? What is the answer?
- 5. Ahmed has 300 pounds to spend on new clothes. If he bought 12 pair of socks for 18 pounds a pair. How much money will he have left to spend?

Cumulative Assessment



Till lesson 17 unit 5

Choose the correct ans	Swer.
------------------------	-------

a.
$$700 g =$$

kq.

B. 0.007

C. 0.07

D. 0.7

b.
$$0.3 \times 0.5 =$$

C. 1.5

D. 15

D. 624

d.
$$0.007 \times 1,000$$
 70,000 $\times 0.001$

hundredths.

A. 70

B. 7

C. 700

D. 7000

Put (/) to the correct statement and (X) to the incorrect statement.

a. 5 cm. and 3 mm. = 3.5 mm.

b.
$$77.43 \pm 0.3 - 258.1$$

c.
$$7.214.6 \times 0.1 = 72.146$$

d. 13 is a composite number.

e.
$$7 - 5.12 = 2.12$$

3. Edward has 3.45 meters of wire that is cut into 15 equal pieces. Find the length of each piece of wire.

4. Hany's father bought a car for L.E 125,000. he paid L.E 31.250 in cash, and he divide the rest into 72 equal instalements. Find to the nearest L.E the value of each instalement.

Cumulative Assessment



Till lessons 1 to 3 unit 6

1	Use the order	of	operation	to	evalute	each	expression	of	the	following.
---	---------------	----	-----------	----	---------	------	------------	----	-----	------------

a.
$$34 \times 28 \div 2 + 5 =$$

b.
$$1,403.5 - 12.3 \div 0.01 + 9.8 =$$

c.
$$12 + 24 \div 4 + 8 =$$

d.
$$3.52 \times 2.2 \div 0.01 + 6.9 =$$

Compare. Write (< , > or =).

a.
$$0.01 \times 0.1$$

 $1 \div 1000$

b.
$$3.41 + 2.59$$

3.41 - 2.59

c.
$$[38.2 + 32] \times 0.01 + 15$$

$$38.2 + 32 \times 0.01 + 15$$

d. The smallest prime number.

The common factor for all numbers.

Choose the correct answer.

a. The first operation to solve
$$983 - 16 \div 8 + 11 \times 10$$
 is

B. Subtract.

C. Multiply.

D. divide.

____ (to the nearest tenths)

A.
$$54 \div [3 + 6 \times 2]$$
 B. $[54 \div 3] + [6 \times 2]$ **C.** $54 \div [3 + 6] \times 2$

C.
$$54 \div [3+6] \times 2$$

D.
$$54 \div [(3+6) \times 2]$$

e.
$$0.2 \times 0.4 =$$

A.
$$\frac{5}{10}$$

B.
$$\frac{5}{100}$$

c.
$$\frac{5}{1000}$$

4. Place grouping symbols [parentheses and / or brackets] in the expressions to generate the given values.

$$7 - 4 \times 5 + 1$$

- a. 376 thousandths + 524 thousandths = _____ tenths.
- b. The number whose prime factors are 2,2,3 and 5 is
- c. 37 × = 3,700
- d. Quotient × divisor + remainder =
- **e.** ___ × 0.01 = 6.751
- f. $[13.5 5.13] \div 0.1 + 16.3 =$

2. Put (1) to the correct statement and (X) to the incorrect statement.

- a. The value of the expression: $77 \div [3 + 4] 11$ is zero.
- **b.** 50.001 + 1.50 = 51.51
- c. If $32 \times 142 = 4,544$, then $4,545 \div 32 = 142 \text{ R1}$
- d. Prime factorization of 20 is $2 \times 2 \times 3$
- e. Zero is the common multiple for all numbers.
- f. $35 \times 94 = [3 \times 9] + [3 \times 4] + [5 \times 9] + [5 \times 4]$

3. Write the expression that matches the clues then, evalute the expression.

- a. Add 3.4 and 3.1 then multiply the result by 10
- b. Subtract 3.1 from 7.54 then divide by 4.
- c. Divide 93 by 0.3 and then add 211.7
- d. Multiply 3.5 by 100. Next, subtract 54.5, then, add 13.4, last, divide the result by 0.01

4. Match.

- a. Add 3.4 to 7.8, then multiply the sum by 1.1
- b. Subtract 3.4 from 7.8, then multiply by 1.1
- c. Multiply 3.4 by 7.8, then subtract 1.1
- d. Divide the sum of 3.4 and 7.8 by 1.1

1. •
$$[7.8 - 3.4] \times 1.1$$

2.
$$= [3.4 + 7.8] \div 1.1$$

3.
$$\sqrt{[3.4 + 7.8] \times 1.1}$$

4.
$$\sqrt{3.4 \times 7.8} = 1.1$$

1. Write the rule for each pattern with a variable, then complete the pattern by finding the missing values .

a. 48,24,12, -?

Rule:

b. 15,18, _____, 24,27, ____

Rule:

c. 28,24,20, — , ~

Rule:

d. _____,8,15, _____,29

Rule:

Using the information given, list the first five numbers in the pattern.

a, starting number: 50

Rule: n = 5

b. starting number: 7

Rule:n+2

Rule: $n \times 0.5$

c. starting number: 40

d. starting number: 2

Rule: $n \times 3 = 1.5$

Put (/) to the correct statement and (X) to the incorrect statement.

a. The place value of the digit 7 in the number 65.741 is ones.

b. Seventeen and seventeen thousandths = 17.17

c. The next number in the pattern: 5,10,15,20,25, is 30

d. The rule in the pattern 3,5,9,17,33, is $n \times 2-1$

e. Seven thousandths > seven hundredths.

4. Find GCF and LCM of the two numbers 12 and 18.

a. In the pattern: 1,2,4,8,16, the Rule is

b.
$$461.12 \div 10 =$$

_ (to the nearest tenths)

2. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

c.
$$7.35 \div 0.5 = 73.5 \div 5$$

C.
$$7.35 \div 0.5 = 73.5 \div 5$$

d. If
$$32 \times 254 = 8,128$$
 then $8,129 \div 32 = 254$

e.
$$3,925 \div 35 = 112 R6$$

3. Find the Result.

c.
$$321 \times 13 = -$$

d.
$$62.5 \div 2.5 =$$

4. a. When Shams was 6 years old, her brother Tamer was half her age. How old will Tamer be when Shams is 12?

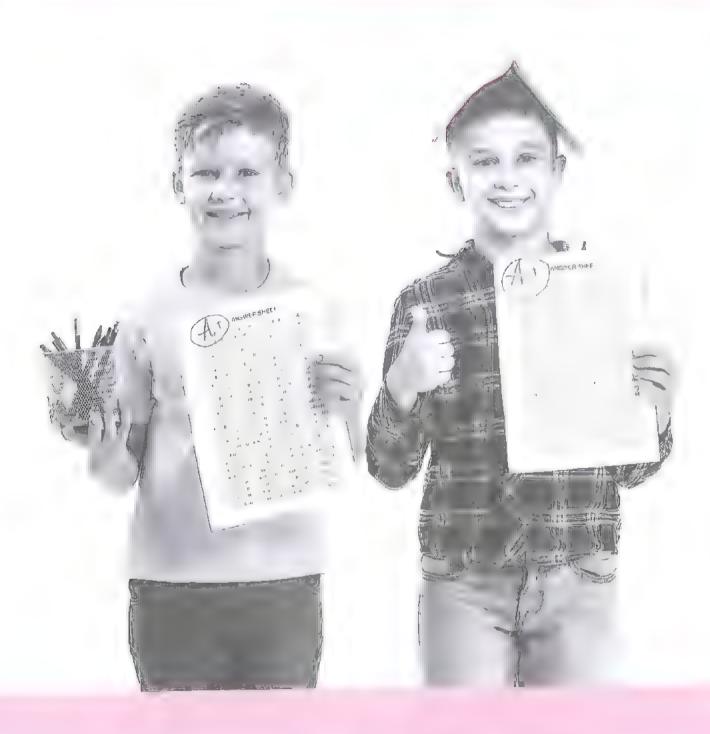
b. complete the table to show Sham's and Tamer's ages.

Sham's Age	Tamer's Age
15	Α,
17	В.
C.	16
22	D.
E,	21

5. If the sum of two numbers is 50.1 and the smallest number of them is 5.999 What is the greatest one?

1

Final Assessments



Model

Choose the correct answer.

a.
$$1.5 - 0.75 =$$

- A. 1.8
- **B.** 7.5
- C. 0.75
- D. 1.25

b. The number 11 has factors.

- A. 1
- B. 2

- C. 3
- D. 4

c.
$$\times 9 = 9,000$$

- A. 10
- **B**, 100
- **C.** 1,000
- D. 10,000

- d. 3.5 L 1500 mL = L

- A. 2
- **B**. 5

- C. 2,000
- **D.** 5,000

2. Complete.

a.
$$1,227 \div 12 = 102 \text{ R}$$

- b. In the pattern: 3,5,7,9,11, ... the rule is
- c. The value of 3 in the number 5.137 is

\mathbb{S} . Put (\checkmark) to the correct statement and (X) to the incorrect statement.

a.
$$45.23 \times 10 = 4.523$$

b.
$$13 + 7 \times 0.1 = [13 + 7] \times 0.1$$

4. Match.

5. a. By using the Area model calculate the product of 75 × 23

b. If Mona has 1.275 kg. of flour. She wants to make a cake for her children If the cake needs 2 kg. of flour. How many more flour does Mona need?



 Complete 	e.	et	pl	Con	1.	
------------------------------	----	----	----	-----	----	--

a. If
$$4.71 + K = 9.2$$
, then $K =$

d.
$$0.3 \times 0.2 =$$

2. Choose the correct answer.

A.
$$10 + 5 + 0.1 + 0.005$$

B.
$$10 + 5 + 0.05 + 0.001$$

C.
$$10 + 5 + 0.1 + 0.05$$

D.
$$10 + 5 + 0.01 + 0.005$$

b.
$$700 g =$$

c. If
$$12 \times 302 = 3,624$$
 then $3,625 \div 12 =$

□. Put (✓) to the correct statement and (X) to the incorrect statement.

a.
$$13 \times 15 = 195$$

()

()

c.
$$2.345 \times 0.01 = 234.5$$

(

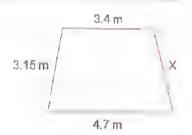
4. Match.

- a. 3.7 ± 1.54
- 9.1 3.8
- 0.2×25.3

- 5.06
- 5.24
- 5.3

5. a. Find GCF and LCM for the two numbers 9 and 12

b. If the perimeter of this shape is 13.5 meters what does x equal?





Put (/) to the correct statement and (X) to the incorrect statement.

a. $4.16 \times 2.3 > 41.6 \times 2.3$

b. The value of the expression $5 \times 5 + 5 = 5 \times (5 + 5)$

c. $\frac{3}{1000} + \frac{3}{100} + \frac{3}{10} = 0.333$

2. Complete.

- a. The common factor for all the numbers is
- b. $9 \times 27 = [9 \times 1 + [9 \times 7]]$

- c. $7,368 \div = 73.68$

Choose the correct answer.

- a. By using the information what is the first four numbers pattern? Starting number: 2 Rule: $(n+1) \times 2$
- A. 2,4,6,8 B. 2,6,14,30 C. 2,6,12,24 D. 2,4,6,8

b. $8.43 \times 0.2 \approx$

(to the nearest hundredths).

- A. 1.686
- B. 1.7
- C. 1.69
- D. 2

- c. $1.515 \div 15 =$
 - A. 15
- B. 11

- C. 101
- D. 1001

- d. The LCM of 6 and 10 is
 - A. 60
- B. 30
- C. 15
- D. 45

4. Match.

By using the fact $112 \times 35 = 3920$

- 11.2×3.5
- 1.12×3.5
- $3920 \div 35$

- 1, 3.920
- 39.2
- 3. 112

5. a. Use the area model to solve $2,576 \div 23$

b. If 18 plums are packed each 3 to a bag, then , how many bags will be there?

Model

1. Choose the correct answer.

- a. There are
- milliliters in 18 liters.
- A. 18
- C. 1,800
- D. 18,000

- b. 2 thousandths × 4 =
 - A. 8
- B. 0.8
- C. 0.08
- **D.** 0.008
- c. Which expression matches the clue «Add 30 to 25 and divide the result by 0 5»?
 - A. $30 + 25 \div 0.5$

 - **B.** $0.5 \times (30 + 25)$ **C.** $(30 + 25) \div 0.5$
- **D.** $30 \div 0.5 + 25$

- d. Which is Not a common multiple of 9 and 6?
 - A. 42
- B. 54
- C. 36
- D. 18

-60	Com	-1 -1 -
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effect of		

a. / hundredths = 17 thousandths =

thousandths.

b. From the opposite bar model

30.8	
a 19.5	the value of a =

c.
$$5.7 \div 100 =$$

Put (/) to the correct statement and (X) to the incorrect statement.

b.
$$73.526 \div 0.01 = 7352.6$$

(

4. Match.

a.

Prime factors of 15



Factors of 15

_		
С		ó

Prime numbers between 2 and 11



1. Multiples of 3 up to 15

5. a. Hala has a restaurant, she sold 301 Kepabs in March, she sold 532 kebabs in April. If she makes each kebab with 51 grams of meat.

How many grams of meat did she use in March and April ?

b. Use the partial quotients strategy to solve the problem 576 : 18

Model

1. Complete.

a. +3.9 = 6.5

b. is the only even prime number.

c. 1,000 × = = 60,000

2. Choose the correct answer.

a. The divisor in the equation $36 \div 4 = 9$ is

A. 36

A. 100

B. 4

C. 9

D. zero

b. 2.51×

= 0.0251

B. 0.001

C. 0.01

D. 0.1

c. Which is the first step in evaluating $28.1 - 3.5 \times 0.2 + 29 - 4$?

A. 28.1 - 3.5

B. 3.5 × 0.2

C, 0.2 + 29

D. 29 - 4

d. 2+0.05 1.7+0.7

A. <

 $B_{\cdot} =$

C. >

3. Put (\checkmark) to the correct statement and (X) to the incorrect statement.

a. 3 is a composite number.

b. 4.7 + 3.6 = M Represent an expression.

c. The Rule in the pattern 10, 20, 30, 40,

___isn+10

4. Match.

a. $\begin{bmatrix} [50 \times 30] + [50 \times 7] \\ + [5 \times 30] + [5 \times 7] \end{bmatrix}$

700 4 b. 60 42,000 240

3,500

c. √ 750 × 13

d. 135 × 10

1. ₹ 704 × 65

2. 55 × 37

3. 1.350

4. 9.750

5. a. Find the result:

1. 4,865 ÷ 32

2. 321 × 15



b. In one year, a school used 15,730 red papers, 4,510 Fewer blue papers than red papers How many papers were used in all?



1. Match.

b.

а.	7.351 ÷ 0.01	

1.	7351	

2. Choose the correct answer.

- a. The GCF of 10 and 15 is
 - A. 10
- **B.** 15
- **C**. 5

- **D.** 30
- **b.** A group of 48 people want to travel by bus, each bus ticket costs 1/5 L.E. How much do they need to pay in all?
 - A. 6,200
- **B.** 5,650
- **C.** 840
- **D.** 8,400

- c. $3,003 \div 33 = -$
 - A. 19
- B. 91
- **C.** 109
- **D.** 901

- **d.** 0.735 L =
 - A. 735
- mL. **B**. 7.35
- C. 73.5
- **D. 7**350

3. Put (/) to the correct statement and (X) to the incorrect statement.

- a. $35.469 \approx 35.47$ (to the nearest hundredths).
- **b.** $23 \times 14 312$
- **c.** If $25 \times 34 = 850$, then $2.5 \times 3.4 = 8.5$

- a. $1.477 \div 12 = 123 R$
- **b.** $0.28 \div 0.04 =$
- c. 7.7,6.6,5.5,4.4,

(in the same pattern)

5. a. Find the result.

1. 5.3 - 1.624

2. 21.57 + 361.983

b. Find LCM of 18 and 24



1. Complete.

- a. The place value of the digit 5 in the number 3.514 is
- b. 0.007 + 0.7 + 70 =

c. if k = 3.4 = 2.17, then k =

Put () to the correct statement and (X) to the incorrect statement.

- **a.** 1 is a prime number. () **b.** $314.52 \times 0.01 = 31,452$
- c. $2.323 \div 23 = 11$

3. Choose the correct answer.

- a. $4.1 \times 1.1 =$
 - A. 45.1
- **B**. 451
- C. 0.451
- D. 4.51

- **b.** If $26 \times 352 = 9,152$. Then, $9,155 \div 26 =$
 - A. 352
- B. 352 R1
- C. 352 R2
- D. 352 R3
- c. What is the ones digit of the product of 456×24 will be without solving the whole problem?
 - A. 3
- B. 4
- C. 5

D. 6

- d. 1 and 7 are the common factors of
 - A. 2 and 7
- B. 2 and 14
- C. 7 and 12
- D. / and 14

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Adv.	MATE	п.
4.0	1.469	H E-0

a. 1237 tenths

1. 1.273

b. 1273 hundredths

2. 12.73

c. 1273 thousandths

3. 127.3

5. a. Ola saved 17.25 pounds and her brother Hosam saved 8.5 pounds. Find the sum they saved.

b. Write the expression that matches the clue. Then, evaluate the expression. Subtract 3.1 from 4.6, then multiply the result by 0.01

Model



1. Put (1) to the correct statement and (X) to the incorrect statement.

a. The LCM of 6 and 15 is 60

()

b. $56 \times 43 = (50 \times 40) + (50 \times 3) + (6 \times 40) + (6 \times 3)$

()

c. If $4 \times 6 = 24$, then $4 \times 600 = 2,400$

(

2. Choose the correct answer.

a. $462.3 \div 0.23$ $4623 \div 2.3$

A. >

B. <

C. =

b. Which expression matches the clue "Giovanni bought 60 fish. He put 5 fish in 9 bowles each"

How many fish are left with Giovanni?

A. $[60-5] \times 9$

B. $[60-9] \times 5$

C. $60 + 5 \times 9$

D. $60-5\times9$

c. 5,000 not equals

A. 5×1,000

B. 50 × 100

C. 500 × 10

D. 500 × 100

d. 4 is a factor of ____

A. 40

B. 39

C. 38

D. 37

Final Assessments

3. Complete.

- a. The value of 7 in the number 5.167 is _____
- b. 4 thousandths + 3 thousandths = _____ thousandths.
- c. $91.364 \approx$ [to the nearest hundredths]

4. Match.

- a. 7.3 + 2.01
- b. 6.4 3.2
- c. 2.1 × 0.3
- d. 4.5 ÷ 0.5

- 1. Thirty-two tenths
- 2. \\ \frac{63}{100}
- 3. 9
- 4. 9.31

5. a. Solve the following equations:

- 1. T- 2.45 = 0.26
- 2, k + 2.40 = 3.04
- **b.** Use the order of operation to evaluet $5.5 \div 5 \times 10 10$

Model

9

1. Choose the correct answer.

- a. The GCF of 20 and 30 is
 - **A.** 1
- B. 4

C. 5

- **D**. 10
- b. There are 3,000 grams in _____ kilograms.
 - A. 3
- **B.** 30
- C. 300
- D. 3,000

- c, 320 × 15 =
 - A. 48
 - **B.** 48 tens.
- C. 48 hundreds.
- D. 48 thousands.

- d. 4150 ÷ 29 = 143 R
 - A. 4
- B. 2

C. 1

D. 3

7	Complete
60	Complete.

- a. $89.36 \div 100 = 89.36 \times$
- b. 32,16,8,4, ______ (in the same pattern)
- c. 3+3 tenths +3 hundredths =

3. Put (1) to the correct statement and (X) to the incorrect statement.

a. $1.1 \times 4.5 > 0.459$

- b. All the factors of 12 are 1, 2, 3, 4 and 6 (
- c. 7.41 + 3.2 1.5 represent an expression.

4. Match.

- The next term in the pattern 3,5,7,9,
- **b.** $65 \div [2+9] 5$
- The third term in the pattern which Rule [n-1] × 3 starting with 2

- 1. 6
- 2. 11
- 3. v zero

5. Find.

a. 32.75 + 16.5



c. 32×12



b. 11.1 - 5.7



d. 2,743 ÷ 13



Model

10

1. Choose the correct answer.

- a. 42.18 × 10 = _
 - A. 4.218
- B. 421.8
- C. 42.18
- D. 4218

- b. $3.2 + 4.05 \boxed{}7.05 + \frac{1}{2}$
 - A. >
- B. =

C. <

C.	Ther	number 7	has	factors

- A. 1
- B. 2

- C. 3
- D. 4

d.
$$\times 5 = 5,000$$

- A. 1,000
- B. 100
- C. 10,000
- D. 100,000

- a. 130 × 30 =
- b. 36.479 ≈ 36.50 (to the nearest ______)
- c. × 0.01 = 5.324

3. Put (1) to the correct statement and (X) to the incorrect statement.

- a. 18 Liter = 1800 mL.
- () | **b.** 2.56 + x = 3.8 is an equation.
- c. $15+5\times4=[15+5]\times4$

4. Match.

b.

- a. 32.4 + 0.01
 - 32,4 × 0.01
- c. 32.4 ÷ 0.01
- d. 32.4 0.01

- 1. 0.324
- 2. 32.39
- 32,41
- 4. 3240

5. a. Find GCF and LCM of 20 and 30

b. A jewellery maker has 0.85 kg of gold used to make special type of identical rings. The mass of one ring is 4 g and the maker has 226 g of remaining gold. Calculate the number of rings can be produced?